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Manufacturers' Record.

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BALTIMORE, DECEMBER 14, 1905.

Mr. Walter Tillson, contractor and worker in tin, sheet iron, galvanized-iron cornice and skylight construction material, 14 North Joackin street, Mobile, Ala., in referring to the MANUFACTURERS' RECORD said:

In my judgment there is no industrial publication which, from point of value to the Southern merchant, manufacturer and those interested in the industrial development of the South, can compare with the MANUFACTURERS' RECORD—nothing like it, absolutely. I wish to go on record in saying that the most profitable investment I have made in my life was that of \$4 subscription price for the MANUFACTURERS' RECORD. I have just shipped a carload of cornices and another carload of roofing material and equipment to Gulfport, where I obtained a contract for same from the city council, the largest contract in my line ever given in this section. I am indebted to the MANUFACTURERS' RECORD for affording me the opportunity to secure the contract. Without its aid I would not have known of it.

EDWARD ATKINSON.

The many friends in the South of Mr. Edward Atkinson of Boston were shocked by the news of his sudden death last Monday. Reaching the age of 78 years and 10 months, with mental vigor unimpaired and with none of the physical deteriorations usually associated with such years, Mr. Atkinson met death on his way to work. Work had been his lot for 63 years, from the time when as a lad of 15 years he had built fires, swept lofts and packed goods in a Boston commission house. His career had been a varied one in business, but he will be best remembered as a most prolific writer on a great range of subjects, including banking, railroading, manufacturing, insurance, fire prevention, the tariff, the money question, imperialism and Southern development, in most of which he frequently developed a controversial spirit which ran much to

statistics as its mainstay. The statistics were not always reliable, especially when used in discussion of Southern social problems, nor was the controversy always profitable. But in a number of notable instances the statistical forecasts by Mr. Atkinson of material progress in the South were given through actual developments the character of safe and sure prophecy, and even those persons who in other matters could not agree with him recognized the genuineness of his convictions and his courage in giving utterance to them under all circumstances. Whatever the subject he handled and whatever its standpoint, it was bound to reflect the trenchant style of a brave and honest man who thought for himself and spoke and wrote in the fear of no man.

Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 60, 61 and 62.

GROWTH OF NATIONAL BANKS IN THE SOUTH.

The wonderful progress of the South is in no way better illustrated than by the enormous growth of its banking facilities. A study of the statistics issued by the Comptroller of the Currency and covering the last 25 years from 1880 to 1905 comprehensively displays the vast achievement of this section. In 1880 there were 220 national banks in the entire South from Maryland to Texas, but now there are 1221. In 1880 the national banking capital in this section was only \$45,598,000, now it is \$126,037,000, and while 25 years ago the surplus of the South's national banks was only \$9,000,000 and a few thousands over, it is now \$50,257,000. National bank deposits in the South have grown from \$64,729,000 to over \$469,032,000 within the same period.

But it is by comparison with the growth of the national banking system in the entire country that the establishment of national banks in the South displays its conspicuous gains. The number of national banks in the entire country in 1880 was 2090, now it is 5757, an increase of 175.45 per cent., but the growth in the South from 220 to 1221 national banks is an increase of 455 per cent. Furthermore, while the national banking capital in the whole country advanced during those 25 years from \$457,553,985 to \$799,870,229, an increase of 74.79 per cent., the South's growth from over \$45,000,000 to more than \$126,000,000 of national banking capital in the same time is a gain of 176.46 per cent.; also the national banking surplus in the whole country rose from over \$120,000,000 to nearly \$418,000,000, an increase of 246.63 per cent., but the national banking surplus in the South, by going from \$9,000,000 to over \$50,000,000, displays an increase of 457.72 per cent. This shows the rapidity of Southern advancement in a striking manner.

Not the least interesting feature of these statistics is the gain displayed by

some States in the number of national banks therein. Mississippi, for instance, had no national banks in 1880—although 13 years previously she had 2—but in 1905 she has 25. The great State of Texas had 13 national banks a quarter of a century ago, now she has 440; Florida had only 2 then, but now 34; Virginia had 17, now 85; West Virginia had 17, but now 79; Georgia had 13, now 63; Alabama had 9, now 67. Both Maryland and Kentucky had each a comparatively large number of national banks in 1880, the former possessing 35 and today 89, while the latter then had 49, but now 124.

But most of the large gains in the number of national banks are clearly results of the act of March 14, 1900, authorizing the establishment of national banks with less than \$50,000 capital. For instance, in 1900 Texas had 223 national banks, now she has 440, as heretofore stated; Alabama had 28, now 67; Georgia 27, now 63; West Virginia 40, now 79; Virginia 43, now 85; Kentucky 81, now 124; Arkansas had 7, now 28; Louisiana 21, now 35.

National banking capital in the South rose from a total of about \$45,500,000 in 1880 to nearly \$92,500,000 in 1890, but in 1900 it had fallen back to about \$86,500,000, yet during the last five years it has risen from that comparatively low figure to over \$126,000,000. But there has never been any halt in the gain of Southern banking surplus. From \$9,000,000 in 1880 it rose to \$24,000,000 in 1890 and to \$30,000,000 in 1900 and \$50,000,000 in 1905. Undivided profits have gone up from below \$4,000,000 in 1880 to nearly \$12,000,000 in 1890, to more than \$15,000,000 in 1900 and to nearly \$27,000,000 in 1905.

Could any record of accomplishment be more impressive than this! Yet it must be remembered that in this quarter of a century deposits in Southern national banks have increased from a total of \$64,729,000 to a total of \$469,032,328, which is a gain of very nearly 625 per cent. And it must furthermore not be forgotten that these statistics do not include the numerous private and State banks in the South, which number many more than the national banks therein, nor the trust companies that also engage in banking, all of which classes of financial institutions are constantly growing in numbers and strength.

OVERWORKED CHILDREN.

This is the time of the year when appeals to tender-hearted misinformation are made by sociologizers from the text of "child slavery in Southern cotton mills." It is hardly worth while to undertake to deal seriously with the "statistics" and the wild deductions therefrom, which will probably be poured forth as long as salaries last or the itch for notoriety is scratched. But it may be suggested that the majority of "children" in the Southern cotton mills have reached the age when they should be learning to work for their living, and that the Southern people, espe-

cially the employers of labor in Southern cotton mills, who have the advantage over professional agitators of possessing accurate information, of best knowing how to combat on a lasting basis the social ills arising from changing circumstances and of being inspired by desire to benefit their fellow-men, are making steady progress for the improvement in every respect of all their employes, young and old. Notorious developments of the past few years have discounted this agitation against the South, born in absolute cold-blooded class selfishness and nursed by individual self-seeking or misguided and ill-informed emotion. About the most overworked children in the world are the children of the imagination about "child slavery" in the Southern mills.

A MISCONCEPTION.

In reply to a suggestion in the ordinary course of business as to advertising a special piece of work, the MANUFACTURERS' RECORD has received the following:

The Equitable Life Assurance Society of the United States.
120 Broadway, New York.
Office of the President.

December 4, 1905.

Gentlemen—Replying to your telegram of December 4, I would say that it is not the policy of the Society to do any advertising of any kind in the press of the country at the present time. Until the present excitement in the insurance business shall have subsided and the newspapers shall have ceased filling their news columns with articles about the evils of insurance, it is not our intention to put out any advertising telling of the benefits of insurance.

Very truly yours,

PAUL MORTON,
President.

"Manufacturers' Record,"
Baltimore, Md.

Aside from the incidental matter of the advertisement of the report of the special committee of the Equitable Society investigating its affairs, such a letter from the gentleman to whom the hopes of thousands of policy-holders in the country have been turned reveals an incomprehensible misconception of the situation. We know of no reputable newspaper which has filled its columns "with articles about the evils of insurance." Nor does there seem to be at this late day any occasion to put out "any advertising telling of the benefits of insurance." The benefits of insurance are indisputable. All the advertising in the world could not strengthen the faith of the public in that means of providing for the future. The trouble is that the faith of the public in the principle of insurance has been frightfully abused by a few individuals to whom had been entrusted the solemn duty of carrying the principle into practice. Reputable newspapers have, therefore, in the discharge of their solemn duty to the public, been obliged to expose, to the best of their ability and in spite of efforts in quarters most affected to suppress the scandalous facts, to give much discussion, not to the evils of insurance, but to the evil practices of individuals connected with two or three

insurance companies. There is no need at this time for a rehearsal of those evil practices or for a naming of the individuals who, strictly within legal limits, but far astray from common ethics, have taken advantage of the confidence of the people in the principle of insurance to feather their own nests and to place their filthy paws upon the business, the politics and the society of the country.

The sensitiveness of Mr. Paul Morton toward newspaper publicity is entirely unjustified by circumstances. It is akin to the objection of the average police official against the publication of news of a burglary. The police official puts up the argument that the publication of such news will warn the burglars. The newspaper understands that the police official does not wish it to be known that under his administration a burglary was possible. Mr. Morton should change his point of view. He should be thankful that the newspapers have been so effective in putting a check upon the evil practices in certain insurance circles and should heartily welcome their co-operation in the task entrusted to him of restoring confidence in certain insurance companies. He should not imagine that justifiable criticism by the press of other occurrences in which he was involved and entirely removed from the insurance fields is involved in the criticism of insurance practices because he has been projected into the insurance field. He should learn that the matter of advertising has no influence whatever with reputable newspapers in their attitude toward public evils.

TO INVITE ENGLISH SPINNERS.

The MANUFACTURERS' RECORD has been given information that the American Cotton Manufacturers' Association proposes to invite European spinners to visit this country. This announcement is interesting. It may be recalled that the MANUFACTURERS' RECORD suggested August 18, 1904, that the cotton manufacturers of the South and of New England should jointly arrange for a visit to this country by representatives of European textile interests. The suggestion was heartily endorsed by representative Southern manufacturers, by State and municipal authorities and by industrial and agricultural organizations, and excited the liveliest interest in Great Britain, especially after a formal invitation to an international gathering had been sent from a meeting of Southern financiers at New York. The project was discussed with growing enthusiasm for two or three months in the late summer and fall of 1904, but failed of accomplishment because of a misconception on the part of the English manufacturers as to the situation in this country. This was set forth in a letter of April 29 to the MANUFACTURERS' RECORD from Mr. C. W. Macara of Manchester, England, president of the international committee of Master Cotton Spinners and Manufacturers' Association, in which he wrote:

I have been requested to inform you that, whilst gratefully acknowledging the courtesy of these invitations, the international committee felt that as the International Federation consists of associations of cotton spinners and manufacturers only, they could hardly be accepted until some definite scheme had been formulated with the support of the association of cotton spinners and manufacturers in America, with whom they have been in constant communication.

There are two leading organizations of cotton manufacturers in this country, the New England Cotton Manufacturers' Association and the American Cot-

ton Manufacturers' Association, the latter representing the Southern spinners. The MANUFACTURERS' RECORD at the height of the movement for the international visit received from Mr. Arthur H. Lowe, a member of the New England association and vice-president of the Southern body, a letter expressing deep interest in the visit and stating that naturally the New England men felt that it was more properly a matter for the American Cotton Manufacturers' Association. The reception given the idea by that body was recorded in the following letter:

The matter has been referred to the board of governors, who have decided that the question is of such magnitude and so comprehensive that they do not feel justified in taking action without it being recommended by the Association, and as the next meeting of the Association will not be held for about six months, hence they beg to advise you that they regret they must decline to extend the invitation on behalf of the American Cotton Manufacturers' Association as you suggest.

It is gratifying to know that the board of governors of the American Cotton Manufacturers' Association has apparently reached the viewpoint as to the advantages of the visit by the foreign manufacturers enjoyed more than a year ago by practically every other progressive body of the South, and it is hoped that the delay on their part in extending the invitation may not lead the European manufacturers to question its warmth.

ON IMMIGRATION WORK.

Announcement was made at Birmingham November 20 of co-operation between the Seaboard Air Line and the Frisco Railroad in carrying 600 persons from Georgia and North Carolina to Oklahoma, and the statement was made:

The initial line, the Seaboard Air Line, did much work in getting the party ready, while the Frisco was not lagging, its representatives being ready all the time to participate in the labor necessary for preparing the movement.

Upon that statement, which we had no reason to question, inasmuch as nothing to the contrary had come to our knowledge in the meantime, we based an editorial of December 7 designed to discourage Southern railroad companies from participating in movements attracting men from the South or merely transferring them as settlers from one part of the South to the other. We have since received from Mr. C. B. Ryan, general passenger agent of the Seaboard Air Line, a letter objecting to our editorial and saying:

You were evidently under the impression that these were homeseekers going out to Oklahoma to settle, and, furthermore, that the Seaboard had created in the people an interest which caused them to break up their homes in the South and go into the West to live. This is not a fact, however; it was simply an excursion party. It was not worked up by us, but by the Frisco people. I know that this is absolutely a fact, as our agents in Charlotte, Columbia, etc., were not acquainted with the business until it moved. Furthermore, I desire to say that this company did not make a reduction of one cent in the rates in order to accommodate the people even on the excursion, and I will add that we brought just as many people back as we took out.

We may suggest that our conviction is that in their immigration work Southern railroad companies should labor upon an independent basis to bring in settlers from other parts of the country into regions respectively tributary to them, and should realize that even such a pleasure-seeking affair as an excursion from Georgia and the Carolinas to Oklahoma may readily become an advertisement drawing men from the Carolinas and Georgia to other parts of

the country. We may add that in our editorial we expressed the hope that the Seaboard Air Line's agent might, after all, be making the trip to Oklahoma for the purpose of attracting several thousand immigrants from that territory to Georgia and North Carolina. We are glad to learn from Mr. Ryan's letter that as many people were brought back by the Seaboard as were taken out. But the railroad people who gave to local papers throughout the South such enthusiastic descriptions of the special trains to Oklahoma have not, as far as we can discover, given any denial of the report that this was a homeseekers' excursion, nor have they given any report, as far as we can discover, of special excursions from Oklahoma into Georgia and the Carolinas.

The notoriety given locally in different parts of the South to such excursions are on a par, whether intended or not, with much of the direct advertisement in the South of opportunities outside the South. These advertisements have again and again been conspicuous at railroad stations, and would hardly have been placed there were the railroads not directly or indirectly interested. Protests against such a policy as well as against newspaper practices of giving publicity to immigration plans designed to draw men from the South have for years been made from time to time by leading workers for the South, and the MANUFACTURERS' RECORD has felt called upon from time to time, in the interest of the railroad companies themselves, to point out the results of such shortsightedness. The MANUFACTURERS' RECORD is deeply concerned for the speedy development of the South and the Southwest, including Oklahoma and the Indian Territory, so closely allied in many respects with the South. But it is convinced that nothing is to be gained and much is to be lost in pushing the growth of one State at the expense of another, or in draining the older sections of the South to fill up the newer Southwest. The South and the Southwest have such advantages for the homeseeker and the investor that well-directed businesslike efforts would soon quadruple the number of the thousands already turning there from other parts of the United States of fewer advantages and from abroad. Switching about the comparatively scanty population already in the South and Southwest is the poorest way of advertising the resources of those sections. It is merely robbing Peter to pay Paul.

THE COTTON ACREAGE.

In urging cotton-growers not to increase the acreage to be planted next year over this year's acreage President Harvie Jordan of the Southern Cotton Association suggests that the farmers plant an abundance of corn, small grain and side crops and to raise more hay, cattle and hogs, with a view to making the farms self-sustaining. Should his advice in this particular be acted upon generally by the farmers, another long step toward confirmation of the Southern cotton-growers in independence will be taken. In some quarters it may be inexpedient or useless for the individual cotton-grower to raise all his foodstuffs and feedstuffs at home. But such a situation will be comparatively rare. The great mass of growers can reach or approach closely to practical independence for their supplies, and in such diversification of crops will be one of the surest guarantees of the maintenance of the acreage in cotton within business limits. The Southern Cotton Association might adopt as its perma-

nent motto: "Plant only as great an acreage as may be thoroughly cultivated in cotton after the necessary work has been done upon the acreage devoted to home supplies."

"MAID OF THE SOUTH."

Folks who point with pride to the young men as the hope of the South are likely to get into trouble on the charge of lack of gallantry. In their eleventh-hour enthusiasm over their belated discovery they are losing sight of the real hope, the maids of the South. Everybody knows that had it not been for the mothers and grandmothers of these maids their brothers would be nothing to speak of. In the past 20 or 30 years Southern conditions have changed, and the maids with them. But while gracefully adapting themselves to modifications of thought without losing for a moment anything of the peculiar charm which is theirs by heredity, while brushing up against the world through necessity to make a living, whether at the machine or in the office, these maids have lost none of their grip upon the young men, and are as influential for the future of the South as their grandmothers were for the present. Innate gallantry, unmarred by a strenuous life in material affairs and forty-odd years of bachelorhood, was responsible for a recognition of this fact, through a species of poetic license applied to a practical end, on the part of Mr. D. A. Tompkins of Charlotte, N. C., a prolific author of much affecting the welfare of the South, in naming his latest conception "The Maid of the South." Though bearing a name of the singular number, there is, in fact, a bit of wholesalerism in this recent effort of Mr. Tompkins, for it contemplates not merely a single maid of the South, but 40 sisters, all belonging to the same family, but each having her special qualifications. Each of these sisters is a weaver, serene and safe against the agitation of sociologists against the employment of females in industry, and each of them has special skill in the production of some particular form of fabric. They have a long and distinguished ancestry, and their father is gleeful in his pride of possession of them. He says that it is a great lot of girls, each one of whom can do something, and do it gracefully.

In other words, the D. A. Tompkins Company of Charlotte, N. C., of which Mr. D. A. Tompkins is president and engineer, is now manufacturing in the South 40 styles of looms which he has christened "Maid of the South," and which are made in the South and used in Southern as well as in Northern factories. It will be recalled that about a year ago an advance in Southern manufacturing was strikingly indicated by the purchase by the D. A. Tompkins Company of the business of the Fairmount Machine Works in Philadelphia, the deal involving the acquisition by the Southern concern of the drawings and patterns for a great variety of dye-house machinery for hangers, pulleys, couplings and every sort of transmission machinery, and for elevators for mills and factories, in addition to the loom business, which had a record of between 50 and 75 years. It required 25 cars to carry the patterns alone of the Fairmount Company to Charlotte. The Bridesburg Company in Philadelphia used to be one of the most extensive loom-building shops in the country. It was absorbed by Thomas Wood & Co., which, in turn, was absorbed by the Fairmount Machine Works. The last-named was absorbed by the D. A. Tompkins Company, which naturally is doing a good business in Philadelphia, not only in furnishing repairs for the great number of looms of its acquired patterns which are running there, but also in new

work. It is also making looms for the South, and its "Maid of the South" may surely be depended upon to make things hum.

AN IMMIGRATION PLAN.

In its issue of November 16, reviewing the Chattanooga "Conference," the MANUFACTURERS' RECORD, alluding to the efforts to give permanency to the dream known as the "Southern Industrial Parliament," suggested that Governor Glenn of North Carolina had, in the cherishing of that dream, the sympathy of the Titular Bishop of Juliopolis. Bearing upon that allusion Mr. Eliot Lord, who has for several months been concerned in the movement for a species of publicity about the undertaking in this country of the Titular Bishop of Juliopolis, writes the MANUFACTURERS' RECORD as follows:

"I have read with care and interest the articles referring to the recent convention at Chattanooga. I do not desire to question at all the general view that the MANUFACTURERS' RECORD expressed in this issue, but I would like for your personal information to note simply that the attendance of the 'Titular Bishop of Juliopolis' at the Southern Industrial Parliament in Washington was solely due to the urgent invitation of the Committee in charge, at least ostensibly, made at a time when it appeared through reports in the Washington Post and other reputable newspapers that this Parliament was called at the instance of representative Southern senators and congressmen, and that it would be, at least, a creditable assembly of those interested in forwarding the development of the South on practical lines. With this understanding I urged upon Bishop Broderick the acceptance of this invitation, and I submit to your judgment that the address which he delivered, copy herewith enclosed, and also paper read by Dr. Chas. R. Borzilleri, were carefully considered contributions toward the practical solution of the problem of distributions of worthy Italian immigration to this country.

"Bishop Broderick is one of the youngest prelates of the Catholic Church, appointed, like many others, for special mission service. I am authoritatively informed that the first charge entrusted to him of the adjustment of the strained relations of Church and State in Cuba was executed in a manner highly satisfactory to the Cuban people and our own Government, as well as to the Papal See. He is now specially delegated to forward by practical working efforts and otherwise as in his judgment the better distribution of immigration from Italy, and to this task he is applying his intelligence and energy in an undemonstrative way and even sedulously withdrawn from self-advertising or any vocal parade. I enclose clipping from the Washington Post showing the statement of Adolpho Rossi in regard to our Italian-American Association. Trusting that this brief communication may inform you with sufficient exactness in regard to the Bishop's position and that of our Association, I am, etc."

Mr. Eliot Lord is the secretary of the recently-organized "Italian-American Agricultural Association" of New York, the majority of whose officers, as published, had previously been actively engaged on an apparently individual basis in working for Italian immigration to the South. The Right Reverend Bonaventura F. Broderick, Titular Bishop of Juliopolis, is president and treasurer of the association, Antonio Zucca of New York city is its first vice-president, Dr. Charles R. Borzilleri of Buffalo, N. Y., is its second vice-president, and B. F. Buck of New York is its third vice-president and general manager.

MARYLAND'S BUSINESS CHANCE.

Maryland spends \$10,000 a year in immigration work under State auspices. It is rich enough and its advantages for settlers are such as to warrant an expenditure of twice or three times as much. Results obtained from present comparatively meagre expenditures clearly indicate what may be accomplished through greater liberality. These suggestions naturally flow from a careful reading of the report of the State bureau of immigration, setting forth the record of its operations during the 18 months ended October 31 last. The commissioners specifically call attention to the report of Mr. Herman J. Badenhop, secretary of the bureau, to whose "constant and efficient service the success that has been attained, in spite of the gloomy outlook which faced us in the beginning, is in great measure due." Readers of the MANUFACTURERS' RECORD will recall the clear-cut exposition of immigration work recently made through our columns by Mr. Badenhop. His report is an equally businesslike paper, and the facts given in it should appeal to the business interests of the State with large, practical effect.

During the 18 months, Mr. Badenhop estimates, 6074 desirable immigrants made their homes in Maryland, 4918 of them from Europe and 1156 from other parts of the United States and from Canada. Real-estate firms who advertised side by side with the bureau sold in the aggregate 33,616 acres of land to 139 families at prices ranging from \$4 to \$400 an acre, the total amount thus invested being about \$800,000.

It would be difficult to find any other business in the State that can possibly show such enormous returns for so small a monetary investment. The returns must be largely credited, therefore, to the intelligence and activity of the work done by the bureau. They should inspire the members of the legislature which assembles next month to strengthen the hands of the bureau by making a greater appropriation for its work, recognizing in a substantial way the value of the individual charged with executing practical details and in addition placing at his disposal larger amounts to be spent in advertising opportunities in Maryland for the thrifty and the industrious. States farther south have been moved to emulate Maryland in this particular, and hence Maryland should be prepared fully to meet the resultant competition for desirable immigrants.

THE INLAND WATERWAY.

While the board of army engineers is completing its report on the proposed inland waterway between Norfolk, Va., and Beaufort, N. C., interest is increasing in the proposed intercoastal canal designed to give light-draft navigation for thousands of miles from the navigable sources of the Mississippi river and its tributaries to and along the rivers of Texas and Louisiana from the Mississippi to the Rio Grande. It is estimated that \$4,000,000 will be required to complete this waterway, which contemplates connection with a similar waterway along the Mexican coast and with one along the Gulf and Atlantic coasts, of which the Virginia-Carolina project is a part. The Texas end of the undertaking is in charge of an active committee of which Mr. C. S. E. Holland of Victoria is chairman and Mr. C. R. Kitchell of Galveston is secretary.

THE BIRMINGHAM DISTRICT.

The annual industrial review of 1905 of the Age-Herald of Birmingham, Ala., is a splendid reflection of the industrial, financial and commercial advancement of that district. The city is a few months

more than 34 years old, but Jefferson county, in which it lies, has now \$52,000,000 of taxable values and a population of 150,000. Birmingham's monthly pay-rolls amount to nearly \$4,500,000. During the past year more than 2000 houses have been built in the city and its vicinity, two sanitary trunk sewers draining all the county have been completed at a cost of \$500,000, and a filtration plant for the water-works company has been installed at a cost of about \$500,000. In the district the railroads handle 12,000,000 tons of coal annually and more than 4,000,000 tons of ore, the incoming and outgoing freight receipts amounting to about \$17,000,000. Mr. Joseph Babb, secretary of the Commercial Club, contributes an article showing in condensed form the industrial progress of the city during the year, as follows:

New corporations chartered.....	\$5,490,000 00
Increase in capital stock—old corporations.....	2,562,000 00
Extraordinary improvements, such as opening up and equipping mines, building coke ovens and houses, opening up quarries and other improvements not chargeable to expense account.....	5,347,000 00
Railroad construction in district. Amount expended by Southern Railway and associates.....	1,693,000 00
Municipal improvements—Birmingham and adjacent towns.....	350,000 00
New equipment and enlargements of industries.....	588,396 97
Sanitary construction.....	1,166,500 00
Houses built in Birmingham and vicinity, 2645, at a total cost of.....	271,694 93
	2,280,410 00
Making a grand total of.....	\$30,849,600 90

UNCOILING.

Why Mr. Norman Walker of the New Orleans Times-Democrat felt moved to suggest that the MANUFACTURERS' RECORD was "flocking alone" in its opposition to the so-called "Southern Conference on Immigration and Quarantine" at Chattanooga becomes a deeper and deeper mystery with every utterance on the subject in the Times-Democrat's quarter. Only last week we quoted from that journal a statement indicating that it had at last discovered that the real motive back of the immigration feature of the conference was anti-foreign immigration, which was the reason of our opposition to the conference. And now comes the statement by Mr. Norman Walker before the Louisiana immigration convention, December 4, proving that he had pushed his investigations still farther. The Times-Democrat quotes him as follows:

"The Louisiana delegation had found that the Chattanooga convention was called in the interest of a movement to restrict immigration from Europe by placing a head tax on immigrants or by requiring such onerous conditions as to shut most of them out of this country. The Louisiana delegation caucused in this matter and decided to oppose any restrictive policy, and, on the contrary, to welcome all white immigrants from Europe who were honest, healthy and willing to work. Mr. Walker said that an attempt had been made in committee to bring in a report in favor of a head tax which would cut down the immigration a half or two-thirds if necessary, but that the Louisiana, Mississippi and Southwestern delegates voted against and, defeated this proposition and brought in instead a resolution extending a hearty welcome on the part of the South to all European immigrants. Mr. Walker stated that the opposition to foreign immigration and the strong desire shown to restrict it was a warning to those Southern States that favored this immigration as offering them labor for the development of their resources. He expressed the opinion that the restrictionists would not give up because of their defeat at Chattanooga, but would attempt at the immigration convention to be held at New York to pass a resolution calling for a law to restrict or cut down immigration and would present this resolution to Congress as the senti-

ment of the entire country, the South included."

It will probably interest Mr. Walker to know that one of the incidents of December 7 at the "Immigration Conference" in New York of the so-called "National Civic Federation" was the assertion credited by the New York Times to "Colonel" N. F. Thompson of Chattanooga, Tenn.:

"It is not true that immigration is absolutely essential to the development of our resources. In 1860 the property of the South had an assessed valuation of \$5,000,000,000. The South has had no immigration, yet the receipts of the South last year for spending money were \$6,000,000,000. Good immigrants we will receive with open arms. We don't want the bad ones under any consideration."

Is it not about time for Mr. Walker to recognize that the MANUFACTURERS' RECORD was not "flocking alone," but that he and the vast majority of the people of the South are flocking with us in this important question?

SHREVEPORT'S HEALTH.

Shreveport, La., seems destined to be the victim of ignorance in some quarters about its health conditions. Now and then this ignorance is given a quasi standing, which results in an unintentional injury to the city. A recent illustration is the publication in a popular magazine of New York, discussing death-rates of the country from the standpoint of census statistics, of the following:

"The State of Louisiana, e. g., is represented only by New Orleans, with a death-rate of 28.9 per 1000 inhabitants, and Shreveport (apparently the charnel-house of the United States) with the frightful mortality of 45.5 per 1000."

Knowing of old the pitfall as to the death-rate at Shreveport, the fact that the great charity hospital of the State is situated there, the MANUFACTURERS' RECORD communicated with Mr. M. L. Scovell, the secretary of the Shreveport Progressive League, and in reply has received detailed information which ought to correct the false impressions about Shreveport's health. Mr. Scovell writes that the question of the mortality at Shreveport has been a source of no little bother, and that the apparently high death-rate is due to the fact that to the charity hospital there the sick of all the surrounding country are sent, many of whom never get well. He says in addition:

"In 1900 the census figures as enumerated by the United States census bureau give Shreveport 16,013 population. We were astonished at the figures, and immediately at our own expense took another census, which gave us 26,000."

With that explanation Mr. Scovell submits detailed statistics taken from the records of the Shreveport Board of Health by Dr. T. E. Schumpert, chairman of the board of health and health officer, who is also vice-president of the Progressive League. These statistics, which, it is understood, do not include the deaths of non-residents at the charity hospital, which, of course, should not be credited to Shreveport conditions, show a total death-rate for whites and blacks of 17 per 1000 inhabitants in 1895, 18 in 1896, 17 in 1897, 14 in 1898, 15 in 1899, 15 in 1900, 15 in 1901, 14 in 1902, 15 in 1903, 16.2 in 1904 and 12 in the first 10 months of 1905.

THE COTTON MOVEMENT.

In his report for December 8 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during 99 days of the present season was 5,920,163 bales, a decrease under the same period last year of 769,879 bales; the exports

were 2,743,415 bales, a decrease of 744,643 bales; the takings were, by Northern spinners, 922,120 bales, a decrease of 7777 bales; by Southern spinners, 765,262 bales, an increase of 25,302 bales.

SIGNIFICANT.

Significant of the trend of public opinion in the South is the publication by the Augusta (Ga.) *Chronicle* of a 16-page immigration supplement, 20,000 copies of which are to be circulated throughout the North, East and West among persons who are thought to be looking toward Georgia for investment or settlement. The supplement, which is profusely illustrated, makes a magnificent exhibit of the manufacturing and industrial resources of Georgia as a whole, of its separate counties and of the city of Augusta. The detailed information thus attractively set forth ought to be effective in turning thousands of settlers to Georgia. It is interesting to note that this supplement appears coincidentally with the first issue of a periodical under the auspices of the Georgia Bureau of Industry and Immigration, Samuel C. Dunlap, commissioner, established by certain of the railroads of the State to further immigration.

PIEDMONT WATER-POWERS.

The Charlotte *Evening Chronicle* of Charlotte, N. C., has published a map indicating the location of water-powers within 60 miles of that city upon which is based an estimate that there is 1,000,000 horse-power in the streams flowing down from the mountains into that area, and that that power developed electrically would operate 30,000,000 spindles and 1,000,000 looms.

Kentucky-Tennessee Oil Fields.

[Special Cor. Manufacturers' Record.]
Barboursville, Ky., December 11.

The drill has been moving at a livelier rate than usual during the past few days in the Kentucky and Tennessee oil fields, haste characterizing the movements of the operators in getting as large a production as possible before the bad weather begins. Better prices are now offered for crude than at any other time this year, and more work is expected to be accomplished during the next few months than during the same time last season. Good strikes have been made in both the upper and lower fields of Kentucky during the past two weeks, the aggregate number in both fields being 14. A new development has just been created in the lower Kentucky fields in Wolfe county, known as the Stubensville extension, and much promises to be accomplished there in the immediate future. The Standard Oil Co. has just finished the construction of a new pipe line through the Stubensville extension, which was seven miles beyond producing lines, and the output of the old wells will be turned into the tanks this week. Attention was centered on the new field two months ago by the development of a well showing an initial daily production of 1000 barrels, and since that time a rush has been on for available territory.

Several new wells have been started in the Stubensville territory, the trend of developments being toward the Whitley county line. Some work of a test nature has been started in the upper part of Whitley county, and if good results follow drilling an extension of the Stubensville pipe line into Whitley county may be built, in which event the regular Whitley county field, centered around Williamsburg, may be connected with Wayne county. This would open up a drillable area of considerable proportions, and would prove attractive for the many new companies which are expected to enter the field with the beginning of the spring season.

W. S. HUDSON.

THE SOUTH'S EXPOSITION.

More Letters Indicating Interest in the Plan.

Additional letters showing the widespread interest in the South's Exposition at Atlanta in 1910 have been received by the MANUFACTURERS' RECORD as follows:
Hugh J. Chisholm, president International Paper Co., New York:

"As to the advisability of holding a Southern industrial exposition in 1910 at Atlanta, I wish to say that I would most emphatically favor such a project. No section of the country can be prosperous without benefiting the country at large, and likewise it is a waste of opportunities and potentialities for the country as a whole if any section remain comparatively undeveloped. There can be no question but that the South is in this latter condition. Great as have been the industrial strides in the recent years, the surface of her resources has scarcely been more than scratched, and there are still natural resources and numerous opportunities as yet unused which can and doubtless will some time make the South one of the wealthiest sections of the country. In your forests there is wealth which has scarcely begun to be realized, and from the products of your soil, although there is already a great benefit derived, yet it is insignificant compared with that which would follow the complete conversion of these materials, such as cotton, into finished manufactured products. For scores of years you have furnished the raw material to the cotton factories of the world, but have just begun to feel the advantage that there is in manufacturing this raw material on the ground, instead of sending it out of the country or to other sections of the country. Your iron has lain in the earth unused through all the years of your existence, and only comparatively recently and to a comparatively trivial extent have your mineral resources been exploited and the advantage gained of manufacturing them into finished products. Comparatively few people know the great undeveloped resources, minerals, forests and of the soil which exist in the South. An exposition such as you propose will extend this knowledge and foster the building up and enrichment of your section of the country, and we in the North, and in fact, all parts of the country, will have a reflex benefit therefrom. It would tend to harmonize the views of the North and South on the great industrial policies of the government, and thus would draw these sections closer together. I am therefore heartily in favor of this very laudable plan."

L. O. Hooze of the Philip Carey Manufacturing Co., Cincinnati, Ohio:

"Appreciating the wonderful development of the South in recent years and the unlimited possibilities of the future, we heartily endorse the proposed Southern industrial exposition for 1910 to be held at Atlanta, Ga. The South certainly deserves recognition and should be afforded an opportunity to display her resources and advantages to the world."

Edward Flash, Jr., vice-president the Williams & Flash Company, commission merchants, cottonseed products, New York:

"We are very glad to note that there is a movement on foot for an industrial exposition in Atlanta in 1910 to acquaint the world with Southern development and progress. In our judgment, not half enough is known by the world at large of the rapid development and building up of the South in all the industries fitted for her soil, climate and resources. We especially would regard such an exposition as being valuable for the cotton-oil industry, as it is our experience (covering over 25 years in the cotton-oil business) that the

ignorance of the public generally regarding cotton oil is stupendous. Scarcely one person in a hundred out of the South knows that there is such a thing as cottonseed oil, or if they do, do not know how it is made or what are its uses. Unfortunately for cotton oil, it is used so much as a substitute and so seldom goes to the consumer under its own guise or under its own name that it challenges no attention from the consumer, and although he is a consumer, he has no idea that in the article consumed he is using cottonseed oil. Such an exposition in Atlanta, showing to the world the methods of production and uses of cotton oil, would be mutually useful and profitable to both the producer and consumer, and we venture to think that such a showing forth of the extent of the cotton-oil industry and the annual value of cottonseed products would astonish the public generally not only in this country, but even more in Europe. It seems to us that Atlanta would be a particularly favorable spot for such an exposition, combining, as it does, so many of the business qualities and characteristics of both the North and the South. It is well named 'The Gate City,' and should this exposition become a final reality we believe that through this gateway to the South a vast number of people would enter in not only to its beauties, but to its capabilities, to the great profit as well as pleasure of the visitor. As specialists (so to speak) in cottonseed products, this matter is of great interest to us, and we trust that the enterprise will be carried forward to fruition."

H. U. Mudge, second vice-president the Chicago, Rock Island & Pacific Railway Co., Chicago, Ill.:

"I find that President Winchell of our company received a similar letter and has replied to same. I fully concur in his views on the subject."

John W. Masury & Son, paints and varnishes, Brooklyn, N. Y.:

"We rather believe that with the progress that the South has made during the past year that an industrial exposition in the year 1910 properly planned would be of great benefit to the entire country."

Geo. W. Balkwill, vice-president and manager the Semistee Co., Cleveland, O.:

"With the new South have come new conditions exclusively applicable to the transformation of an agricultural section into industrial communities, and the creation of new values based upon these new relations and their potential interrelations with other similar and competing industrial communities. The new South presents a marvelous contribution toward national prosperity. With faith in the stability of Southern resources Northern capital has so thoroughly amalgamated our industrial interests as not only to build up in the South the means for supplying the world's markets, but to create a demand for home consumption with an ever-increasing list of consumers. Nothing can so well illustrate these new conditions or make for a better acquaintance with the industrial community with the facts so necessary to a general knowledge of the subject as a Southern industrial exposition such as you have suggested. Ours is a large country, covering every variety of climate and including many races of people each with its own wants and preferences. Hitherto the exchange in the marts of commerce have been, generally speaking, between the East and the West. There seems to have been insufficient interest in the markets that have all the advantages of a short haul both by rail and sea, and the South, it seems to us, owes it to itself quite as much as the country needs the knowledge to organize a meeting-place for a proper demonstration and exhibition of Southern products,

Southern manufactures and Southern enterprise in general. Holding these views and being strongly convinced of the success of such an undertaking, we heartily commend your suggestion, and should be glad to participate in a Southern industrial exposition if such an enterprise can be brought about."

Southern Telephone Facilities.

The Southern Bell Telephone & Telegraph Co. has decided upon an increase of capital stock from \$1,000,000 to \$30,000,000. The company has no bonds, and does not intend to issue all of this increase of stock at present. It will issue less than half of the \$29,000,000 and the funds will pay for improvements and extensions effected during the past several years and provide the money for future betterments which will be called for from time to time as demanded by the needs of different communities throughout the South. In this section the Southern Bell Company now operates many thousands of toll lines and hundreds of exchanges, owning large buildings in Atlanta, Birmingham, Montgomery, Mobile, Jacksonville, Savannah, Charleston, Macon, Charlotte, Greensboro, Richmond, Norfolk and Lynchburg. New buildings are being erected in Huntington and Charleston, W. Va., and additional steel-frame fireproof structures are being constructed in Atlanta, Birmingham, Richmond and Norfolk. The company covers territory embraced in West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama. Its general offices are at Atlanta.

Working for Factories.

Mayor J. H. Hicks of Clarksville, Ga., writes to the MANUFACTURERS' RECORD as follows:

"The Clarksville Board of Trade has been organized with Messrs. John Martin, president; M. C. York, vice-president; J. H. Hicks, secretary, and W. R. Asbury, treasurer. It will consider propositions from parties from other States for the location of manufacturing plants at Clarksville, and will seek to interest others who might want a new location and who would require the town to take a good block of stock or to offer other inducements to make them feel safe in coming here. I am authorized to say that we will meet halfway any individual or company that will put in a woodworking plant, a cotton mill or any other factory at this place. The Habersham County Fair Association has been organized for the purpose of holding a fair in 1906, and while it is to be held in the interest of Habersham county, White, Rabun, Towns, Union, Banks, Stephens and Franklin counties, Georgia, and Macon county, North Carolina, will aid in the enterprise. Half the stock required has been paid for. The officers are Messrs. I. C. Wade of Cornelia, president; J. H. Hicks, secretary, and W. R. Asbury, treasurer."

Seeks Position in South.

One of the MANUFACTURERS' RECORD's correspondents writes that he is in communication with a young and energetic young man who is desirous of becoming associated with some Southern business enterprise located in a healthful section in the South or West. The applicant is said to be an experienced bookkeeper and general office man of experience in the mill supply and buildings industry. For three years he was secretary of a foundry company, and is now secretary of an automobile manufacturing corporation. Business men needing assistance in their enterprises can address "Energetic," care of the MANUFACTURERS' RECORD, and their letters will be forwarded to the man referred to.

IRON RESOURCES OF LLANO COUNTY, TEXAS.

By C. F. Z. CARACRISTI, C. E., E. M.

[Written for the Manufacturers' Record.]

I have just completed my second investigation of the mineral resources of Llano county, Texas, and am satisfied that my previous impressions were more than justified by years of mature thought. The resources of this wonderful section have not been exaggerated in previous reports, nor, as is usual in days of excited booms, has the story of its mineral wealth been half told. The downfall of Llano's prosperity, due to the explosion of industrial bubbles in the South and Southwest and the devastation of a calamitous cyclone, was the result of fortuitous conditions rather than the want of inherent values. Its downfall marked an epoch rather than a condition of lasting power. It was a case where the strong were sacrificed with the weak, the result of financial debility fostered by over-confidence and promoters' greed. Now that the storm of reckless optimism has passed, we can see the outer lining of a gold-tinted future. This past catastrophe is a lesson worthy of its cause, for the reason that it has made it possible to weed out worthless competition and inspired confidence of a substantial character in worthy enterprises. The temporary depression of the past had no lasting effect upon any of the legitimate values of the South and Southwest. It cannot be denied that fortunes have been lost, but this has been due to lack of ordinary business acumen and conservatism. Llano county has not suffered, because its riches are not disturbed by mere human failure. The values are there, and from the chaos of financial contortionism must rise a healthy future progress. The discussion of the past is not due to a desire to fill space, but to the necessity of answering those who will say "there is nothing of value in Llano. We tried it and lost our money." If the investments had been properly made and guarded I will venture to say that not one penny would have been lost in Llano. The values were there, and are there still, except that our country's progressive conditions have augmented their importance and the possibilities of their destinies.

Everything that Llano county produces or can be made to produce has advanced in value. In addition, the past depression has made it possible to consolidate vast interests that, separate, would have defied profitable development. Unfortunately for the small capitalist, the day of vast enterprises has replaced the possibility of insignificant investments. It is a condition which we may as well accept with good grace, as it has no remedy. This is markedly so in the iron industry, to which, among others, it particularly appeals. If (this is an idle word) the \$300,000 that was spent in the town of Llano in the construction of hotels, banks and other buildings had been used in the intelligent development of the surrounding iron mines the prosperity of that section would have been assured even against the direful ravages of a financial panic. As absurd as it seems, not even \$10,000 has been actually spent in development work—a condition truly without parallel in the annals of mining. Outside of the geological conditions and a few prospect holes, there is nothing that would inspire capital to invest, much less to go to the extravagant expenditure of building a town. Llano, with all its resources, is as thoroughly undeveloped as if it was on the border of the Upper Nile, with one exception, its granite quarries. It needs systematic development to establish visible evidence of its potentials. The investment of large sums of money cannot be discounted or

expected from mere surface prospects. The man of means has become acquainted with the fickle vagaries of nature, and a hundred-dollar prospect hole will not satisfy him of the existence of large bodies of ore. He wants to see the goods, not to hear the talk of the vender. This is the only criticism I can make on the conditions in Llano. I know that an abundance of valuable iron ore exists in this county, and that it is just such a class of ore as is needed in the United States, but a mere statement has never made an ounce of pig-iron, and the best advice I can give the owners of the Llano iron field, whoever they may be, is to develop their properties, so that they may demonstrate to the world practically that they are capable of becoming a factor in the iron industry. Some people who have invested in iron have stated to me that the freight rates were against the proposition. On the other hand, the railroad people say that the moment that Llano can demonstrate its ability to become a producer they will be only too glad to give rates corresponding to the value of the ore. If iron can be produced in Cuba and shipped to the United States at a profit, surely Llano ore, that is as good as the Cuban, can stand reasonable shipment.

The consideration of every economic proposition must be approached with stanch frankness, and it cannot be expected that developments will come to any section without first determining the average profit to be derived. The iron ore of Llano, under existing labor conditions and by the use of improved machinery, will cost \$1.50 per ton on the dump. It is claimed that it can be produced for much less, but the hardness of the ore justifies my estimate. There is plenty of carbonate of lime available for flux, and by importing coke pig-iron can be produced at from \$10 to \$10.50 per ton. I am aware that this cost is far above that of the Birmingham pig, where coal is found close at hand, but the Llano iron would command an advanced price over the Birmingham that would more than offset the original high cost of production. By using air compressor or electricity derived from water-power of the Llano river the cost might be slightly reduced, but this would require an exceptionally large outlay, and I am in doubt if this power would be available for more than eight months in the year.

There is no doubt that the Llano iron deposit is one of the largest and most important in the United States, and that it will force itself upon the iron industry of the country at no far-distant date; yet its ultimate extent is problematic, owing to the fact that its present development is not sufficient to justify even an approximate estimate as to quantity. This much I do not hesitate to say: That the small amount of work already done shows a deposit equal if not better than that of Cuba when I first saw it in 1889. There are at least six well-defined veins, running from 18 inches up to 24 feet in width. As the larger veins dip at an acute angle the working of the ore is an easy problem unless excessive water is found below the level of the present shafts. Even in this case the mines could be drained by gravity for some years to come, as the ore rises in hills much higher than the river bed. In the discussion of Llano iron it would be out of place to omit Mason county, where identical conditions exist, and in this report it is intended to include that county.

Great stress has been placed on the prospects on Iron Mountain, but as this is simply an upthrust of a continuous

vein that traverses the county in a north-westerly and southeasterly direction and extends some 30 miles in length, I do not hesitate to state that this exposure of ore is simply a phenomenon caused by local erosion. In other words, nature here has done that which man has neglected in other sections of this extensive and promising field. Had it not been for this natural discovery Llano would today be little known as a prospective iron deposit.

The Iron Mountain ore is a compact red hematite, consisting of a granular mass of a dark gray and black color. In the vein that measures 24 feet in width is occasionally found streaks of magnetite.

The assays of six samples of Llano ore made by Messrs. J. H. Herndon and L. Magnenat are officially stated to have given the following results:

	Per ct.
Metallic iron.....	56.43
Silica.....	5.59
Alumina.....	7.86
Lime.....	1.44
Magnesia.....	Trace
Phosphorus.....	0.55
Sulphur.....	0.09

No criticism can be made of these results except in the high percentage of phosphorus, which is .45 per cent. above the Bessemer limit.

A sample of the hematite ore that I selected from the dump near the shaft on Iron Mountain, and which I consider as average ore, gave:

	Per ct.
Metallic iron.....	54.61
Alumina.....	6.89
Silica.....	4.02
Lime.....	3.74
Sulphur.....	0.68
Phosphorus.....	0.11

This reaches within a fraction of the Bessemer limit, and may be accepted as a valuable ore. Another sample selected with the object of determining the maximum result gave 59.32 per cent. metallic iron and .06 per cent. phosphorus. I am not able to say how much of the latter ore can be obtained.

Mr. Hidden, who rediscovered spagumine (a well-known gem of the Ural mountains) in North Carolina, and now locally known as Hiddenite, has made an extensive investigation of the rare minerals of Llano. His observations are valuable so far as they deal with this class of elements, that require special expert knowledge and with which I am not familiar.

The following appeals to those interested in the iron trade. However, the results appear to me too good to use as a working base, and are probably the determination reached from select samples similar to the one examined by me for a specific purpose:

Analyses of Llano County Magnetite, Iron Mountain, by O. H. Palm and S. H. Worrell.

	Per ct.	Per ct.	Per ct.
Metallic iron.....	66.33	64.40	64.40
Silica.....	2.38	6.52	6.54
Alumina.....	2.69	Trace	Trace
Lime.....	.....	.....	.....
Magnesia.....	.....	.....	.....
Sulphur.....	0.44	Trace	Trace
Phosphorus.....	0.032	0.048	0.045

Analysis of Magnetic Iron Ore from Bader Mine, South of Iron Mountain, Llano County, by Andrew McCreath, Harrisburg, Pa.

	Per ct.
Metallic iron.....	64.15
Silica.....	7.28
Titanic acid.....	0.38
Phosphorus.....	0.014

Average of Five Analyses of Llano County Magnetite by J. H. Herndon and L. Magnenat.

	Per ct.
Metallic iron.....	63.31
Silica.....	4.67
Alumina.....	5.74
Lime.....	0.57
Magnesia.....	Trace
Sulphur.....	0.092
Phosphorus.....	0.064

The magnetic ores that I examined lie well within the Bessemer limits in sulphur and phosphorus, and will average 57.60 per cent. in metallic iron. The importance of this cannot be overestimated if the iron and steel industry does not suffer from a reaction, which at present appears improbable. Even in this case the high-grade ores will maintain the predominance

of importance in the world's metal markets.

No work has been done to determine the extent of the limonite deposit along the base of Long Mountain in Llano county, and any expression of opinion as to quantity would be hazardous guesswork. However, assays give over 50 per cent. metallic iron, and it is not excessive in sulphur and phosphorus. If found in quantity it may prove of value as an admixture to the harder and more refractory ores.

While I have mentioned only six workable veins of iron ore in Llano and Mason counties, this does not imply that there are not others equally as valuable; but from present developments and natural erosions we have no certainty of the value or extent of others.

Even with the small developments practiced in Llano county, compared with its natural exposures, it is perfectly safe to state that no similar area of territory in the United States offers such a promising outlook both as to quantity and quality of the ore.

The available properties are now nearly all controlled by two interests, and while selections have been made more with regard to extensive acreage than actual mineral values, it is safe to say that the extent of the investments (\$400,000) will force the owners to operate their properties in order to derive an income from their otherwise dormant capital. This will mean a new and lasting impetus to the progress of the region, and while local benefits will accrue, the State at large will also add to its wealth and the Southern iron industry will be assisted and placed upon a footing equal to if not better than that of the North. The placing of this ore on the market will establish a new era in the American iron industry.

The continuity of the veins and the well-defined uniformity of the country rock establishes to my fullest satisfaction the conclusion that the product from this field will last for centuries to come under ordinary conditions of extraction, yet only developments can prove the certainty of this deduction.

I shall deal with the other mineral resources of Llano county in a separate article.

El Paso, Texas.

The Southern Gypsum Co.

For some weeks past the MANUFACTURERS' RECORD has been aware that plans were being formulated for the development of what is claimed to be an unusually valuable gypsum deposit in the State of Virginia, but the promoters were not ready to have the enterprise made public until today. We are now advised by Mr. W. E. Cochran of Butler, Pa., that he and associates will incorporate and organize the Southern Gypsum Co. with a capital stock of \$500,000 for the purpose of mining and marketing gypsum contained in a tract of 500 acres of land located on the Holston river, five miles from Saltville, Va. It is stated that gypsum was taken from this property as many as 100 years ago, and that it is one of the most valuable tracts in this country. The Norfolk & Western Railway Co. has indicated its intention of building a branch railway to the property so that the new company will be afforded the necessary railway facilities for shipping its product just as soon as it is ready to send the gypsum to market. Associated actively with Mr. Butler in obtaining the options on the property and forming the Southern Gypsum Co. is Mr. W. S. Thompson, president of the City National Bank, Greensboro, N. C., and investors in Baltimore, Md.; Boston, Mass., and Chicago, Ill., will be among the stockholders of the new corporation.

WORLD PORTS FOR AMERICAN COAL.

By F. E. SAWARD.

[Written for the Manufacturers' Record.]

I have had a good deal to say about the foreign trade in coal, and it may be that some folks have rather thought lightly of all this. There is much that can be done by a constant iteration we are told, line upon line and precept upon precept. Why may not some interest be awakened in this matter of expansion? We are going to need all this extra trade to the outports one of these days, when the output overcomes the present ability to supply, and it is worth while to keep talking about it. When the representatives in Congress see the light and give us a chance at the foreign trade of the various ports of the world it will mean a good deal to our coal producers. We are young yet in many things, and it is a very decent thing to be able to boast that so much of what we produce is consumed at home. But at the same time our productive capacity of some things may outstrip this possibility to consume, and what then? Is it not worth while to take a look ahead and by all means in our power attempt to forestall congestion? I fancy so, and in this view of the situation give the following facts and figures.

It is interesting to note the comparative tonnage of the export trade of the two countries, Great Britain and the United States. Here are the exports of British coals for the period of 10 months:

	1904. Tons.	1905. Tons.
Coal.....	38,559,640	39,472,736
Coke.....	611,782	610,579
Patent fuel.....	1,069,932	947,361
Bunkers.....	14,394,308	14,489,303
Total.....	54,635,722	55,510,681

The tonnage shows an increase; it is mainly to Russian ports in the past month, with some to the German ports earlier, on account of the strike of the miners. It is claimed to be one of the bright spots that there is an increase in the business British shippers are doing with the Argentine Republic. Notwithstanding the keen competition of United States coal, we have increased our hold upon this market in a very satisfactory manner. For the first 10 months of the year the exports in 1904 rose to 1,182,000 tons, and this year amount to 1,402,000 tons. Average prices were less, so that the total tonnage, although nearly 1,000,000 tons larger than a year ago, was not worth very much more.

As showing some of the continental tonnage done in the 10 months, note these figures: Portugal, etc., 771,934 tons; Spain, 1,979,711; Italy, 5,476,831; Greece, 327,462; Egypt, 1,931,251; Turkey, 378,360; Algiers, 599,199; Gibraltar, 217,583; Malta, 309,793—making a total of 11,992,124 tons, and rather a respectable lot of tonnage, is it not? Would that our shippers had half of it to their credit.

Then take up the South American business: Chili, 449,754 tons; Brazil, 841,046; Uruguay, 309,973; Argentina, 1,402,085; West Indies, etc., 900,000. Here is a total business of 3,952,858 tons, and worth looking after, and there ought to be something in it for the American coal producers.

Take up the American figures, and one may find this comparison for 10 weeks ending with October:

	1904. Tons.	1905. Tons.
Anthracite.....	1,963,215	1,928,786
Bituminous.....	5,315,381	5,941,161
Coke.....	430,232	507,599
Bunkers.....	4,000,000	4,000,000

Now of the anthracite not 30,000 tons was sent to all the outside places—the bulk going to Canada. Of the bituminous, 4,100,000 tons went to Canada, and that leaves 1,800,000 tons to all other places,

such as 750,000 tons to Mexico and the balance to the West Indies, South America, etc. A total of 90,000 tons is put down for all Europe—mainly Italy. Is this not a sorry showing? The coke goes to Mexico, by rail or water, for use by the smelters of that country.

Let us have something in the way of aid and assistance for the "slow freighter" that will take our heavy products, such as coal, to all parts of the world, particularly to such of the ports and places as are named above.

As showing that there is an interest in all this matter, I can do no better than to quote from testimony given before the recent royal commission on coal supply, etc. The witness said: "In South America they competed with United States New River coal and New South Wales coal; in the Far East they competed with Indian, Japanese, New South Wales and Labuan coal, and in South Africa with Natal." As to American coal, and remember that this was at a time when coal here was not so much sought for, the witness said: "The home markets of the States were now incapable of taking the whole output of their mines, and there was every prospect that in the near future large exports of their coal would be sent to the Mediterranean markets." There was a certain amount of American competition in 1900 and 1901. Strong efforts were then made to introduce United States New River coal, but with the fall of prices in England and a concurrent boom in the States the attempt was abandoned.

Witness said that he founded the statement that the home markets of the States were incapable of taking the whole output of the mines, firstly, on reports which he had from people who dealt in this coal, and they also knew that things were not so well in America as they were a few years ago. The tendency at that moment was for them to look to another market for the coal than their home markets, which hitherto they had only just been able to supply. There was a freight quoted only a few days previously from Newport News to the Mediterranean to bring coal over, which was a very low freight. That American coal from Newport News, which is the New River coal, and which is of a very high quality (in fact, the P. & O. people said it was only about 8 per cent. or 9 per cent. below the best admiralty seams of the South Wales coal), did come over into the Mediterranean in pretty large quantities in 1901. It went chiefly to Trieste and Marseilles. He feared that if anything should happen so that they (the Americans) had to put a lot of their coal out again, which he feared there were signs of, they would have to compete with that American coal in Cape de Verde and all those places in South America.

As to the question of quality, witness quoted the experience of a firm of very large dealers who brought a very large quantity of this American coal over to European markets. They said: "Our experience is that steamship owners or railway companies will readily take New River coal at a reduction of 2s. per ton on the price of very best Welsh." Therefore it resolved itself mainly into a question of Atlantic freight, but the tendency was if one freight went down or went up from, say, Cardiff to Genoa, the freight would also go up or down from Newport News. Except that there might be some very special reason for getting a very good back freight from a place, they would generally find that freight moved up and down

together. There was also the question of the price of the New River coal at Newport News itself. The price of this coal during the period from January, 1900, to June, 1902, was between 10s. and 11s. at Newport News, and that is its value today. We have known New River coal as low as 6s. to 6s. 6d. f. o. b. at Newport News, and we have every anticipation, in view of the enormous increase of the

American production, that we shall see that price again."

While upon this subject I cannot but feel that the expressions in the President's message in regard to the merchant marine have a timely value. It is desirable that we get something in the way of aid and assistance for the "slow freighter" to carry our heavy products to the markets of the world.

GUARANTEED SOUTHERN LAND TITLES.

By EDWARD ATKINSON.

[Written for the Manufacturers' Record.]

Every effort has always been made in the Commonwealth of Massachusetts to enable the working people of the State to become the owners of their own homes to the fullest extent. This work has been mainly accomplished through the agency of the savings banks and of the co-operative banks.

I again call your attention to the fact that we have a population in round figures of 3,000,000. More than half that number stand credited with a deposit in some one of the 188 savings banks of the State, the average deposit being considerably above \$200 per head of the population; more than \$400 per head of the depositors.

The total amount of the assets of the savings banks in the year 1904 was \$675,000,000. It is now \$700,000,000, to which is to be added \$35,000,000 to \$40,000,000 in the co-operative banks, by the agency of which small homes are bought on most favorable terms, over \$750,000,000 in this item of the savings of the Commonwealth belonging to the extent of at least 75 or 80 per cent. to the factory operatives, artisans, mechanics, domestic servants and others of the strictly working class, of whom 60 per cent. are foreign-born or of foreign parents—Irish, German, Hebrew, Syrian, Polish, Bohemian, Slavs, Canadians, etc.

Now you will observe by referring to my communication in the MANUFACTURERS' RECORD of October 6, 1904, that if we take the appraisal of the wealth of North Carolina, South Carolina, Georgia and Alabama from the census data and count their estimates based on assessments for taxes at only 40 per cent. of the true value, estimating twice and a-half the assessed value, it would appear that in the census year the valuation of the entire property, land, improvements and other taxable values of North Carolina was a fraction over \$700,000,000; of South Carolina, a fraction under \$500,000,000; Alabama, about \$740,000,000—each less than the valuation of the property in Massachusetts in savings banks only—while Georgia would stand at \$1,000,000,000, or only 25 per cent. in excess of the deposits in our savings banks.

On the other hand, these estimates of accumulated wealth offer a very fallacious standard of common welfare. The productive capacity of these four States is vastly greater in natural resources than the productive capacity of Massachusetts, and if the same system of saving small sums and using it to enable farmers, mechanics and artisans to become the owners of their own land were to prevail as in Massachusetts, these States might soon pass Massachusetts in the pursuit of common welfare, provided the common schools were equal and the mental and physical energy the same.

There is, however, one other very important matter to be considered in this connection. Land titles are bad in some parts of all these States, mainly in the mountain sections, but also in many other

places. The cost of investigating titles is very heavy. The difficulty in borrowing money on mortgage is excessive, and the expense of investigating the title with every change of ownership or of every mortgage offers a very serious bar to the attainment of land by small farmers, mechanics and other working people. That difficulty existed in Massachusetts until a very recent period. It has been practically removed by the adoption of registering the titles to land under the authority of the State and doing away wholly with the registry of deeds. I doubt if this subject has yet been brought into conspicuous notice in any of the Southern States.

This Torrens system, so-called, is now established in Massachusetts, in Illinois, and I believe in other States. It is a system derived from Australia, established in British Columbia and in many parts of Canada, and existing for more than 100 years in Germany, although when established in Australia by Sir Robert Torrens he appears to have had no knowledge of the previous practice introduced by Baron Stein when the great land reform of Germany was carried through about a century ago.

A few words may therefore be given to the simple explanation of this system, to which I happened to have first called public attention in an article in the *Century Magazine* for February, 1892.

I derived my information from a pamphlet, printed much earlier, by the Cobden Club of London, of which I imported 1000 copies for distribution and information.

The absolute title of all land in this country vests in the State; the nation retains the right of eminent domain, and so do all the States, each sovereign in this respect. The title of land which is held by individuals, persons or corporations is an estate in land, subject to the conditions of eminent domain. These titles have originated in part in grants from Indians, grants from the Crown perpetuated after the Revolution, grants from the colonies and grants from the State or nation, all of which have rested upon documentary titles registered in the registry of deeds of the several States and counties, where the records are perpetuated on each sale or mortgage of an estate in land.

Under these conditions many titles have become clouded. Many persons are now occupying land of which they have an indefeasible title—where their title is, in fact, very insecure—and often owners become aware of the cloud on their titles only when they attempt to sell and assign that land to others. Hence the great difficulties and cost in passing title and in negotiating mortgages.

Under the Torrens system, so-called, the State practically recovers the title with each assignment from one person to another, and grants to the purchaser what is practically a new certificate of title from the sovereign. This system has been established in Massachusetts for some years. The first act was defective, as it proved to be when brought before the courts. It was then amended and has been adjud-

cated as a constitutional method by the Supreme Court of the Commonwealth.

Under the act a land court, as it may be called, has been established, to which owners who wish to get the certificate of title bring all their deeds or certified copies from the registry. The court then orders the title to be investigated, the same as if it were acting as a conveyancer. If found perfect all the deeds are retained in the custody of the State, and under order of court the registrar of titles gives a very simple certificate to the effect that A B holds title to such and such a parcel of land. The proceedings under mortgage are also as simple, requiring no legal service. The charges are very small.

In this method the title to a piece of land can be passed from hand to hand as simply and with as little cost as the passing of a certificate of stock in a corporation. This enables the owner to borrow money without any delay or any but trifling charge, practically converting real estate into the same kind of personal assets as stock or bonds in railway or other corporations.

REGULATION OF INTERSTATE COMMERCE.

By COL. J. B. KILLEBREW.

[Written for the Manufacturers' Record.]

The one step most of all to be dreaded by a free people is the interference of government with private concerns or the control of public utilities by political power. This is the beginning of socialism, which, though apparently beneficial at the beginning, is sure to increase until the respect for private rights is lessened or destroyed and the reign of anarchy begins. When the schemes of political strategem are substituted for the industry of the citizen a most dangerous condition of affairs will result.

Never before in the history of the United States, except in the period of active hostilities during the Civil War, has a proposition been made that the political power of the government shall not only control the means of transportation, but virtually own them, for there is really no difference between owning a property and legislating how that property shall be managed and by whom, what shall be its charges for the performance of specific duties without reference to the expenses incurred or capital invested.

What has been the effect of private ownership of railroads in the United States? A prosperity has been created and an accumulation of wealth made that have no parallel in all the industrial history of the past. Great cities have been built where the coyote howled and the prairie dog and the rattlesnake lived in companionship and the wild Indian pursued great herds of buffaloes across the almost limitless plains 50 years ago. Barbarism has given place to civilization and the world has been expanded.

A degree of comfort has reached every home where industry and economy have been practiced. In other words, the country and the people have grown in wealth, in industrial activity, in influence, in power and in moral strength and achievement.

The people of the United States are prospering in every line of human endeavor. So universal is their prosperity that the people of all nations envy them their happy condition and seek to participate in the enjoyment of this happiness by immigrating to this country. The increasing influx of immigrants that are carried to all parts of the United States at very low rates tells the tale of the beneficent work of the railroads controlled by their owners. Without the low passenger and

In Germany, where this system has existed for over a century, land banks exist for the purpose of issuing debentures to capitalists, thereby securing the deposit of funds, and then lending in detail to farmers on their certificates of title.

Your readers can at once judge of the potent influence of such a system in distributing land and bringing it rapidly into cultivation under the best conditions.

It is difficult to imagine the joint effect of establishing the transfer of land by title, coupled with the adoption of the savings-bank system of the Northern States, throughout the Southland. The small savings which are held in very large measure by the colored population would be immediately concentrated and made useful; colored and white farmers alike would be enabled to become owners of their farms, and the curse of the chattel-mortgage system and the crop-mortgage system would be speedily done away with. The savings banks and other banks would lend on the certificates of title, leaving the products free to be sold by the owners in their own way.

freight rates given, does anyone believe that the great West would be as populous and as opulent as it is now? Would the Southern States be increasing in varied industries and wealth so rapidly as at present?

There is one question that should appeal to all sensible men. If the people of the United States are more prosperous than those of any other nation, why make any change that might impair or destroy this prosperity? It is not wise to make any changes unless there is to be a sure benefit resulting or a paramount necessity for so doing. All changes in themselves are evil. One never knows what the effect of changes will be. In the every-day duties of life one finds that bad results totally unexpected often come from changing old methods or practices to new ones. It is a grave matter to make a sweeping change in the management of the great railroads of the country. There is one chance in ten that it might result in good; there are nine chances in ten that it may result in evil. The proposed change will be tantamount to governmental ownership.

Will the ownership of the railroads by the government result in reducing the present tariff for freight, or will it prevent rebates, preferential tariffs and special favoritism more than the laws now in force?

Under private ownership the average freight charges per ton-mile in the United States have been reduced from \$1.89 in 1870 to \$1.23 in 1880 and to 72 cents in 1899. Germany, which nationalized the railroad system at the consolidation of the Empire and which more perfectly represents State ownership than any other country in Europe, during the period from 1880 to 1899 reduced the freight rate from \$1.34 to \$1.22 only; Austria reduced its rate from \$1.81 to \$1.24; Italy from \$1.93 in 1870 to \$1.58 in 1899. Germany, Russia, Hungary, Austria and Spain own nearly one-half the railroads within their dominions, and they are operated by them. France owns the roadbeds, but the equipment is owned by companies operating them. The whole system in France is under governmental supervision, and after certain well-defined fixed periods the railroads are to revert to the national government. Even with this control by the government the rate on freight has been re-

duced only from \$1.78 in 1870 to \$1.35 in 1899.

So it appears that in the United States, where the government has never assumed or even attempted heretofore to exercise any power to regulate rates, they have been reduced to a lower standard than in any of those countries where they are more or less under governmental control.

Governmental regulation destroys competition. It destroys the advantage which one road has over another by providing better equipment and quicker service. Worse than all, it destroys the ability of regions distant from the seaboard to compete with those regions lying within easy reach. The grain of the Northwest would never reach the great centers of population in New York, Pennsylvania and New England if the mileage rate of freight should be adopted. The iron of the South would be outlawed in Pittsburgh. The other fabrics made in the South could not come in successful competition with those made in the Northern States. Phosphate rock, now mined to the extent of 480,000 tons per year in Tennessee, could not be carried to Chicago to be manufactured into fertilizers to be shipped to the very region from which the phosphates are mined, nor could it be shipped to Pensacola for transportation in competition with the Florida and South Carolina rock, which lies on the seaboard or near it and has water transportation. New Orleans now is the second city in the United States and Galveston third in the value of its exports. Many of these articles for exportation are brought to these cities at only nominal rates in cars that would otherwise be "empties." Could these rates be made if they were within the regulation of government agencies?

It is hardly to be expected that railroad commissioners appointed through political influence will be so impartial in their rulings as not to give better rates to the sections from which they are appointed. The present board has only one member, I believe, from the Southern States. Can the Southern States expect to receive the consideration from this commission that it would receive from its own system of railroads? The railroads of the South are interested in building up the prosperity of the country through which they pass, because they are interested in increasing its traffic and passenger service. Will the partisan railroad commission feel an equal interest in building up the South? Nay, might not the members of the commission feel that in this prosperity the section from which they come will suffer a loss somewhat in the proportion in which the South advances in industrial activity? The evidences of this jealousy among the cotton spinners of the North are not lacking. They have magnified the extent to which child labor is employed in Southern mills and have sought to have federal legislation to prevent it, though investigation has shown that as large a proportion of child labor is employed in the North as in the South. Every large shipper in the South would prefer to trust to the railroads themselves than to an irresponsible and sectional political railroad commission.

Besides, what knowledge or experience will the members of such a commission have? They are not appointed because they have expert knowledge of railroad transportation, but because they have been active in political work. As a general thing, they are men who are ambitious of power, not for the public good, but for their own behoof. A man with sufficient knowledge of the difficulties of fixing railroad tariff rates, to be efficient in such a position, would not accept such a place for the compensation offered. Usually the appointees are broken-down political hacks that the people have turned out

upon the boundless plains of official sterility. If such men as Milton H. Smith, Stuyvesant Fish, Samuel Spencer, James J. Hill and Major J. W. Thomas could be placed on such a commission it might result in great good to the country, but even with such men, if a mileage basis should be adopted, great harm would come to all industrial opportunities of the South.

The effect of government regulation of rates upon new railroad enterprises will be disastrous in the extreme. What company or corporation or individual would be justified in putting money into an enterprise to be controlled by other men, and with whom they may not be in accord or able to exercise any power or influence? If this rate regulation should be put into the hands of government agents, then the government will probably have to build all new lines and to buy eventually all the old ones. Should this state of things come about, farewell to all progress and all good management of the transportation lines. In the grasp of politicians the railroads of the country would become bankrupt in 10 years. No railroad has ever been successfully run in this country that was owned by States or cities. The State of Tennessee in the early seventies foreclosed the mortgages it held on many railroad lines in the State. For a time it attempted to operate them, but every year showed a loss. In the meantime these railroads decreased in the value of their tracks, their equipment, and, of course, in their ability to serve the public. The State was forced by financial necessity to dispose of them at prices that paid but a small proportion of the mortgage indebtedness which it held over them.

The city of Cincinnati built a first-class railroad from that city to Chattanooga. It was thought that it might be operated by the city at a profit, but the experience of a few years dispelled this idea and the road was sold to be run under the management of private ownership.

The less the government has to do with the private business of the country the better it will be for the country and for the government. It is asserted now, after a decided recalcitrance in business circles against the drastic legislation attempted in the Townsend bill, that the power proposed to be given to the interstate railroad commission shall be limited to the question of whether a given rate is unjust or unreasonable. In the words of the President:

"To give to this administrative body power to make its findings effective, and this can be done only by giving it power when complaint is made of a given rate as being unjust or unreasonable, if it finds the complaint proper, then itself to fix a maximum rate which it regards as just and reasonable, this rate to go into effect practically at once—that is, within a reasonable time—and to stay in effect unless reversed by the courts."

That is to secure the benefits of a trial before the cause is tried. This would do for the age of Nero, but now it is unpardonable.

Let us suppose for a moment that this ruling should be applied to the great public newspapers of the country. Let us suppose that the advertising rates of such papers should be placed in the hands of a commission who should determine whether such rates are unjust and unreasonable without reference to the capital invested or the cost of operation, and that that commission should have the power to fix a maximum rate which it deemed to be reasonable, this rate to go into effect practically at once and to stay in effect until reversed by the courts. What would be thought of such a power? It would be able to destroy any newspaper in the land. Complaints of exorbitant charges would

be made from hundreds of sources, and the owners of newspapers would be utterly stripped of any power to protect themselves. Such a grant of power conferred upon any body of men whatever would be regarded as destructive of the rights of property and of the liberty of the citizen.

The railroads have not always done right. They have often given privileges and rebates to large shippers that they have denied to smaller ones. But is this any excuse for virtually taking the property out of the hands of their owners? National and private banks have not always acted with impartiality with their customers, but surely it would not be considered right that the fixing of the rates of exchange and discount should for that reason be placed in the hands of a political bank commission. There are laws to prevent railroads from making discrimination in freights to shippers. Let these laws be enforced. If the government is unable to enforce the laws already enacted, it seems fanatical folly and acute delirium to enact others that are to be enforced by a political commission.

Surely the advocates of this contemplated law must think the world is moving backwards when it proposes to practically confiscate or reduce without limitation the earning power of the railroads. No sane mind believes that the people of the United States are suffering from the extortions of the railroads at the present time. Competition among interstate railroads is too sharp. It is most dangerous to try experiments in times of prosperity. The people are prosperous. Let them alone. Political interference with private concerns is a gratuitous indignity to the people, not to say insult to common sense.

The forceful words uttered by H. T. Newcomb before the Senate committee on interstate commerce must form the fitting conclusion to this article. Says Mr. Newcomb:

"Private ownership and operation, without excessive legislative restrictions, appear to be necessary in order to obtain the utmost economy in railway management. Only responsibility to stockholders is a sufficient incentive to insure that changes in rates, improvements in service, equipment and tracks and extension of line shall be made whenever they may reasonably be expected to cause an appropriate increase in profitable traffic, and not under other conditions.

"The greatest danger, perhaps, from State participation in rate-making is the substitution of political for economic considerations in the determination of charges. Low freight charges on international traffic under all forms of management are frequently guaranteed by competition between rival routes. But when the national desire to foster export trade is added the incentive to increase shipments abroad becomes too strong, and frequently results in the establishment of unremunerative rates that constitute a burden on internal traffic. Under general State ownership competition as a means of determining rates is abrogated. Even indirect competition, which prevents a monopoly on the part of private carriers from charging more 'than the traffic will bear,' loses much of its power when responsibility to private stockholders is exchanged for responsibility only to the public. With the withdrawal of competition as a force in determining rates political pressure on the part of certain classes becomes too strong an influence. In Germany this danger is especially conspicuous. There two strong interests, the agrarians and the industrial class, have succeeded in obtaining a protective railway tariff as well as a protective customs tariff.

"High rates without generally favorable financial results, more costly management, the delegation of rate control to persons more amenable to political influence than business necessity—these are the most conspicuous results of European railway policy."

CHARLESTON'S DESTINY.

Mr. W. C. Kelly's View of West Virginia's Capital.

[Special Cor. Manufacturers' Record.]
Charleston, W. Va., December 4.

"With one or two men here like W. C. Kelly Charleston's population would go to 50,000 in three years' time and this city would become thoroughly known by manufacturers everywhere as one of the most desirable places for the location of a factory that the country contains."

These were the enthusiastic comments of a visitor who had just been shown through the immense plant of the Kelly Axe Factory here, and who had listened to the comprehensive size-up of the situation given by Mr. Kelly, who had told why he had happened to move his plant from Alexandria, Ind., to this place, and why he had decided that Charleston offered greater attractions to him than any other location he could find.

As president of the company, a manufacturer all his life and a man fairly born into an industrial atmosphere, his father before him having had a long and successful career as an iron manufacturer, Mr. Kelly is so thoroughly familiar with the vital factors that make for failure or success that his every utterance carries with it the weight of authority and is accepted without question.

To all with whom Mr. Kelly talks the unanswerable logic of his argument for Charleston seems like an easy, natural coming of indisputable facts, so that few manufacturers can listen to him without regretting that they are not located at Charleston, and no Charlestonian can get up from even a casual conversation with him with other than an enthusiastic belief in the destiny of vast industrial expansion for this city of natural gas, coal and river transportation.

One great element of strength in the arguments of Mr. Kelly is that he undertook the big task of removing his gigantic plant from Alexandria, Ind., when the natural gas played out over there, solely to secure improved conditions. He did not go out hunting bonuses nor invite competitive bids to secure his location. Instead, he quietly investigated conditions everywhere personally and without at first revealing his identity or his mission. Months were spent in this work, and when he finally decided on Charleston it was because he was convinced that here there is a combination of favorable conditions more advantageous than he could find elsewhere.

Cheap fuel, healthful climatic conditions and rail and water transportation facilities form the combination that induced him to choose Charleston, and all these favorable factors unite to give a location deemed little short of ideal by Mr. Kelly for himself and for any other manufacturer into whose operations the cost of fuel enters as a consideration of importance.

"The saving to us in fuel will pay the cost of removal in less than five years," Mr. Kelly declares, "and after that it will mean to us a saving of some \$50,000 a year. The natural gas of West Virginia, of which there are still vast stores—enough to last a generation, it is claimed by some gas experts—is much richer in heat units than was that of Indiana, so that at five cents a thousand, which, I am informed, is the price announced by one of the companies supplying Charleston, this

gas is equal to what Indiana gas would be at four cents a thousand, which, of course, is a price far below the rates to be obtained in the newer fields anywhere. Our fuel bill here is \$1500 a month. In Indiana it was \$5000 to \$7000 a month. That tells a story any manufacturer can understand and appreciate.

"Then when gas does play out, as experience elsewhere indicates that it must do in time, here are the great coal fields of West Virginia, that afford cheaper and better coal than will be found elsewhere, and which will last for hundreds of years. This is the greatest coal country in the world, and by actual test we learned before we came here that a ton of West Virginia coal is equivalent to a ton and a-half of Indiana coal. The coal here lies in mountain ranges, and does not require shafting to get at it, and consequently it can be mined very much cheaper than the Indiana coal.

"Furthermore, the Great Kanawha river runs right through the center of this coal field, and manufacturers can buy the coal right at the mines, load in barges and at a nominal expense float it down the river right to their factories, thus practically saving the entire freight.

"In the matter of transportation we have three trunk-line railroads, putting us in touch with every point in the interior and with the seaboard and the lakes, and then we have the navigable Kanawha besides, which flows into the Ohio and which in time will give us water transportation to Cleveland and to St. Paul and Kansas City, as well as to the points now accessible, like Ohio river points and those on the lower Mississippi. The improvement of our waterways by locks and dams is certain to be carried to completion at a no distant day not only on the Ohio for its entire length, but the Muskingum, with its Ohio and Erie canal connection between Zanesville and Cleveland, the Mississippi between Cairo and St. Paul, the Missouri, etc. It is but a matter of time when railroad rates will become as fixed and unalterable as the laws of the Medes and Persians. Rebates and discriminations are surely doomed. The advantages of being located on the rivers that God has put here will then become even more apparent than at present. In the course of time I expect to put on a line of boats to handle my bulkier shipments. Others will do the same, for railroad facilities do not and cannot keep pace with the development of the country. Besides, water transportation is insignificantly cheap alongside of railroad rates. I can ship a box of axes by water from New York to Australia for one-fourth of what it costs me to ship the same kind of a box by rail from Charleston to points in the southern parts of the United States. Understand, there is no hostility toward railroads implied in this statement. There will always be all the business for the railroads that they can take care of, and they will continue to prosper and to occupy the important position in the business of the country that they do today; but there is certain to be an increase in water transportation, and those of us who are situated on streams like the Kanawha will find the advantage one of increasing importance.

"Another consideration that decided me in favor of Charleston is that climatic conditions are particularly desirable here, so that practically no night in the summer is other than cool and pleasant. The configuration of the mountains and hills in this valley seems to send a cooling breeze down on us here every night, giving the night air a tonic effect that is lacking in the Ohio river valley and in most other places, so that workmen are able to get refreshing sleep. Many of our men work

during the day in an atmosphere of intense heat—some of them standing up before a heat of as much as 150 degrees. They get used to it, and if they have a refreshing sleep they feel no ill effects. Should their sleep be broken, if the nights are sultry and close, they find it impossible to stand the heat of the shops.

"It was these three considerations of fuel, transportation and climate that decided me in favor of Charleston, and I do not hesitate to recommend to my brother manufacturers, those whose fuel bills form a large item of expense, that they come to Charleston to share the advantages we enjoy."

Asked about the possibilities of blast furnaces and steel plants at Charleston, Mr. Kelly said that as New River coke is now shipped to the mills of the Illinois Steel Co. at Chicago, he saw no reason why furnaces and steel mills might not be established here. With the completion of the Ohio & Erie canal the Superior ores could be shipped to Charleston by boat cheaper than those ores are now landed in Pittsburg, and the coke of the West Virginia ovens could be landed here cheaper than at any other place. With one reason plant such as his own at Charleston, the product of a furnace and steel mill could be utilized here at home, and he had no doubt such a development would occur in time.

It is to be borne in mind that the Kelly Axe Manufacturing Co. is the largest of its kind in the world—about as large, in fact, as all the others put together. Here are turned out one-third of all the axes made in the world, and they are sold wherever trees are felled. The buildings of the company occupy about 24 acres of ground. At present only various kinds of axes and scythes are manufactured, but it is proposed to ultimately add other lines. The factory here was opened in April of this year. There are now 650 hands employed. When run to the full capacity of the plant there will be 1000. The capacity of product is 12,000 axes and 1200 scythes a day. The present pay-roll for labor is \$6000 a week; when running to full capacity it will be from \$10,000 to \$12,000 a week.

The factory was first located at Louisville, and was well established and prosperous when moved to Alexandria, on account of the big gas supply then just brought in. The concern was more prosperous, free from debt and of world-wide fame when the exhaustion of natural gas and the increase in cost of coal made a new location desirable. To cover the main part of the cost of making the change, amounting to some \$250,000, bonds were issued to the extent of \$200,000, and these were taken by the banks of Charleston. Forty-three of the 53 acres of ground owned by the company here were donated by the people of Charleston. As Mr. Kelly points out, the saving in fuel alone will pay off the bonds and return the full cost of the move within five years.

While the financial resources of the Charleston banks will scarcely permit of any duplication of such assistance as was given Mr. Kelly when he had decided on Charleston and announced his intention of coming here, yet it is probable that some means may be devised to interest other really important institutions to locate here. Mr. Kelly points out that all successful industries start with small beginnings, for the knowledge that makes for success only comes with long experience. But even when a million-dollar enterprise has been built up it is in a fortunate condition if it does not find it necessary to borrow money to carry on the business with. Should the plant, however, be free from debt and able to do business without borrowing, it is a serious proposi-

tion to raise the quarter of a million dollars necessary to move a big plant. It can't be borrowed from the town which is being abandoned, to be sure, and the resources of the place selected will seldom bear many such strains. Nevertheless, the advantages which Charleston possesses, especially to large users of fuel, are so apparent, with the certainty that the saving in fuel bills will pay the entire cost of removal in a few years, that there is every expectation that by some means a number of plants of well-nigh equal standing in the industrial world as the Kelly Axe Factory will at no distant day arrange for a location in Charleston. Mr. Kelly and others here, among them the Chamber of Commerce, are working to that end, and their success seems a not unwarranted prediction.

ALBERT PHENIS.

ALABAMA IRON INTERESTS.

Interest in Reported Movements Toward Consolidation.

Considerable interest has been manifested in the iron and steel manufacturing world because of the announcement last week of the incorporation of the Southern Steel Co. of Gadsden, Ala., which consolidates the interests of the Alabama Steel & Wire Co., the Underwood Coal & Iron Co. and the Alabama Iron Co. The company's capital stock of \$16,000,000 will be apportioned as \$10,000,000 common and \$6,000,000 preferred. This company plans extensive betterments and enlargements of its various properties, including a doubling of the present steel plant and the construction of a modern rod mill and another finishing plant, as telegraphed last week to the MANUFACTURERS' RECORD by E. T. Schuler, president of the new corporation. During the past week further announcements have been made at Gadsden, including the statement that the new rod mill will have a daily capacity of 500 tons and that from \$3,000,000 to \$4,000,000 in the aggregate will be expended to complete all the plans at present being considered. This will include industrial land improvements, the erection of probably 1000 cottages for the workmen who will be needed, and the installation of the latest modern equipments for mining and manufacturing, in the coal and iron mines, open-hearth steel plant, blast furnace, blooming mill and other departments. All the details are being worked out by engineers, and it is the intention to begin construction work and proceed with it as rapidly as possible during 1906 and thereafter until all the developments contemplated have been completed.

In fact, it is the Southern Steel Co.'s intention to develop to the fullest extent all the properties which have been acquired and to establish an immense plant for manufacturing iron and steel in its various forms, in accordance with the original plans contemplated by Messrs. E. T. Schuler and G. H. Schuler when they organized the Alabama Steel & Wire Co. a few years ago. The Gadsden plant as at present constituted includes a blast furnace, four basic open-hearth steel furnaces and a rolling mill, this being the Alabama Steel & Wire Co. property; the Underwood Coal Co. properties cover over 3000 acres of lands; the Alabama Iron Co. properties include the Porterville iron mines, which are said to carry some of the highest-grade ore found in Alabama. The Alabama Steel & Wire Co.'s plant at Ensley, near Birmingham, will continue in operation as heretofore.

Last week the MANUFACTURERS' RECORD mentioned the officers and directors of the Southern Steel Co. Messrs. Moses Taylor and Robert Van Cortlandt, directors, are members of the firm of Messrs.

Kean, Van Cortlandt & Co., 26 Nassau street, New York city, who are said to be largely interested in the Lackawanna Steel Co. Mr. D. G. Boissevain of this firm is also a director in the Alabama Consolidated Coal & Iron Co. It is understood that these New York bankers have arranged to finance the new corporation. E. T. Schuler, president of the Southern Steel Co., has confirmed by letter his telegram of a week ago to the MANUFACTURERS' RECORD (stating that the present steel plant will be doubled and a rod mill and finishing plant erected), and further says that the Garret-Cromwell Engineering Co. of Cleveland, Ohio, will have charge of the engineering work involved.

The activity in the stocks of the Tennessee Coal & Iron Co., the Republic and several others would be good proof, if none other were available, that important movements are under way looking to further consolidation and development in the Alabama district. As stated in the MANUFACTURERS' RECORD a few weeks ago, the situation then indicated that the Republic Iron & Steel Co., or more probably the people connected with it, had secured control of the Tennessee, and that later on the taking up of other Alabama iron interests would be given serious consideration looking to a general consolidation of all of these companies. Since then there have been some rumors that the Colorado Fuel & Iron Co. might become a part of such a consolidation, although there is no logical reason why this should be brought about, since that company is not in any way closely related to the Alabama interests. However, when great speculators and great operators begin a campaign of this kind there is no telling how far-reaching it may be before they complete their consolidation plans. Whatever may be the final outcome in the way of mergers or consolidations, it may at least be accepted as a fact that the business world more fully realizes now than ever before the vast potentialities of the Southern iron region, and this of necessity will result in very large expenditures for the purchase and development of other properties as well as in addition to plans which are under way looking to a great enlargement of the operations of established companies.

West Virginia Forests.

The field work of the Forest Service in the preparation of working plans for timber tracts belonging to private owners has covered during the year just past a total area of 1,982,000 acres, distributed among seven States lying in four forest regions.

One of these working plans was for a tract of 30,000 acres in Logan county, West Virginia. This country is just developing as a coal-mining region, and the lands examined are underlaid with coal deposits which are now being worked. The forest is made up of hardwoods, from which the more valuable trees have been largely culled. As a result of this the inferior species, such as beech, have increased their numeric proportion in the forest, and now threaten to predominate. Two distinct types of forest are found. The mixed hardwoods type occupies the lower lands and the better soils. Here yellow poplar, white oak, beech, basswood, ash and chestnut are the principal species. On the higher lands and covering the poorer soils is found the chestnut-oak type with chestnut oak, chestnut, red and black oaks and hickory as the chief species. Owing to careless lumbering, repeated ground fires, and, on lower lands, to overgrazing, the forest has greatly deteriorated.

The mining company for which the plan was prepared wishes to manage these lands so as to obtain a continuous supply of timber for its mines. The field work occupied a party of eight men for about

three months. From valuation surveys showing the stand per acre of all trees one inch and over in diameter breasthigh on various parts of the tract, estimates of the present stand of timber on 16,500 acres were computed. Measurements were taken on yellow poplar, chestnut oak and white oak, and volume tables constructed showing the contents in board feet of these species. A forest map was also made on a scale of 1000 feet to the inch, with 100-foot contours, and covering an area of 41 square miles.

The study of the tract soon showed that successful forest management called for the solution of the following problems:

1. Protection of the forest from fire.
2. Restriction of grazing to clearings and land not recently lumbered.
3. The obtaining of satisfactory seedling reproduction of the valuable timber trees.
4. The removal from the forest of the inferior species at a profit, which resolves itself into the question of utilization of low-grade timber.
5. Modification of the present logging practices to reduce waste in the felled trees and to leave the forest in improved condition.

To protect the forest from fire a system is to be organized under which one man will become responsible for all fire fighting, and the logging contractors will be held liable for damages caused by fires started by their men. In restricting grazing one of the most important steps would be the adoption by the county of the West Virginia stock law, by which the company could stop free grazing on its lands. Satisfactory seedling reproduction can be obtained by stopping fires, by regulating grazing and by introducing conservative methods of logging. Seeding by the species which it is desired to reproduce will be secured by prescribing diameter limits below which these trees shall not be cut and by cutting all undesirable species to low diameter limits. The removal from the forest of the inferior species at a profit is made possible by utilizing the best trees for lumber, by manufacturing all wooden rails and planking for tramroads out of the largest trees, by allowing no other species to be used for cribbing and for bridge timbers on tramroads, and by making all ties, posts, props and caps required in the mines and locally out of such timber.

The recommendations of this working plan are now in force. In November, 1904, two months after the completion of the field work, seed trees of the valuable species were being left by the lumbermen, and the logging rules for avoiding waste and leaving the forest in good condition were being carried out. Grazing will undoubtedly soon be regulated and fire protection provided.

ITS FIRST RAILROAD.

Natural Resources of a Georgia County.

[Special Cor. Manufacturers' Record.]

Dalton, Ga., December 7.

The Louisville & Nashville Railroad will soon have its new line completed between Knoxville, Tenn., and Atlanta, Ga. The principal town on the new line is Chatsworth, about 15 miles directly east of Dalton, in the center of Murray county, and just halfway between Knoxville and Atlanta. The road has planned an elegant depot and a number of houses for employes at this point.

Murray is a very rich and productive county, and grows all kinds of farm products, especially grain and cotton. Chatsworth lies just at the foot of the beautiful Cohutta mountains, which are laden with minerals of all kinds, and for scenery are unsurpassed. It is about one mile from a point known as Fort Mountain, which is

2800 feet above sea-level and is the place where Hernando de Soto, once governor of Florida, built a fort enclosing 15 acres, the ruins of which are now plainly visible. There are two other points near, one 3500 feet and the other 4000 feet above sea-level. Murray county is very healthy, and enjoys the distinction of not having a drug store within her borders.

The Louisville & Nashville Railroad is the first road to enter Murray county, and the indications are that the development will be very rapid.

THE FARRAR LUMBER CO.

SANITY IN IMMIGRATION.

The National Civic Federation's Effort Catalogued.

Discussing the "conference" on immigration last week under the auspices of the so-called "National Civic Federation" of New York city, the New York *Journal of Commerce* says that, "as a matter of fact, the conference merely furnished a free platform for the airing of diverse views on the subject which it had been brought together to consider, and left that subject pretty much where it was before." It takes the ground that "it may be questioned whether it was worth while summoning such a conference to demonstrate that organized labor thinks itself entitled to more protection than it enjoys, or that any attempt to conclude with China such an immigration treaty as China will accept will meet with uncompromising opposition from the Gomperses, the Mitchells and the Powderlys, who claim to speak for American workmen." It adds:

"The whole question turns on the expediency of making any violent departure from the policy under which this country has grown rich and great. If it could be proved that the American power of assimilation was being overtaxed there would be an obvious argument for the further restriction of immigration. But, as Mr. Carnegie put the case, the problem, if problem it be, is for the countries that are parting with their able-bodied subjects or citizens to add to the wealth and strength of the United States. We are certainly getting the best of the bargain, and the lowest estimate of the cash value of our annual immigration represents a very imposing sum indeed. In other countries it is made the business of the government to endeavor to attract immigration; it would be a curious confession of national exhaustion should the energies of our own be directed to its discouragement. Not only, as President Eliot remarked, is the doctrine of self-protection being overworked, but, in the form as stated by Mr. Gompers, it is an essentially un-American doctrine. As the president of Harvard said, if self-protection is to be followed at the expense of our fellow-men it is a dangerous doctrine. 'It is not the nobler, more generous attitude to assume, and it will never commend itself to our people in regard to immigration.' There was sound common sense in the additional statement of President Eliot that we need all the brain and sinew we can import to develop our resources, and that after providing for the exclusion of criminals, paupers and people of unsound mind or body, there can be no reason for prohibiting the others from coming to our land, whether they be induced to come or not. 'The American people will welcome them, and will endure no legislation designed to keep them out.'

"The vicious fallacy that underlies the position of the labor leaders in such questions is that they insist in regarding labor as a thing apart, having interests of its own quite independent of the general welfare of the country and rights of its own superior to those of American citizenship. Labor is a much larger entity than the trades-union politicians are ready to ad-

mit. In the first place, most of it is entirely beyond the sphere of their influence, and in the next, to use Mr. Carnegie's phrase, it is the greatest possible blunder to assume that a man who comes to this country to work injures other workingmen by doing so. Every immigrant is a consumer, and as such employs other labor, so that even on the narrowest interpretation of the special interests of the laboring man he cannot well be injured by an increase of population which tends to increase the national consumption of the commodities he produces. The immigration conference has at least had the merit of giving men like President Eliot, Archbishop Ireland and Mr. Andrew Carnegie, the last-named of whom never appears to so much advantage as in discussing a question of this kind, an opportunity to puncture some of the prevailing fallacies by which the labor agitators bamboozle Congress, and with which they have made an obvious impression on the plastic mind of the President of the United States. It would be well for the prospects of sane immigration legislation if Congress and the President equally would accept, with all that it implies, the dictum of Archbishop Ireland, that immigrants had made this the greatest nation on earth, and that to shut out the man who came ready to put his hand to the plow would be to turn back upon the best traditions of the past."

It would be almost impossible to conceive of the holiday season in this country without the artistic publications of Raphael Tuck & Sons Co., Ltd., of New York. For many years the firm has made a specialty of success in anticipating a demand for calendars, booklets, Christmas and New Year cards and gift books for old and young of greater and greater merit as to lithography, design and interesting and attractive texts. It has drawn upon the products of gifted pens and brushes in the preparation of its publications, and has put them forth as a result of the highest efforts of the printer's art. This year's issues mark another notable advance, and it would be difficult to discover any class of individuals to whom some of the publications would not appeal. They include Tuck's Annual, now in its eighth year, with its 128 pages with nearly 140 pictures in color and in black and white; additions to the humorous "rag-time" calendars, calendars of the Haverall order or dealing in youthful sentiment, a wide range of children's books, including those printed directly upon washable linen, illuminated cards illustrating the turn of the year or the incidents upon which the Christmas festival turns, birthday cards, post cards, etc.

Gumption. The Progressions of Newson New. By Nathaniel C. Fowler, Jr. Publishers, Small, Maynard & Co., Boston.

The title of this bit of sprightly fiction might well be "Common Sense versus Convention." Though fiction, it is full of facts based upon the varied experiences of a man in the heights and depths of the newspaper world from counting-room to editorial sanctum and from sub-basement to sky-parlor. The progressions of Newson New, in which a love affair is more or less involved, carry him here and there in New England and fill him with the quaint humor of down East, venting itself in autobiographical expressions turning the laugh upon prigism and pretense in business, in the professions and in social intercourse. The Sons of This or the Daughters of That will probably not enjoy the book. Their mainstay is the suppression of whatever sense of humor may be latent in them and the cultivation of self-assertive convention. But the mass of men and women in America are still of healthy mind, and to them the book will appeal.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

A Textile Comparison.

Mr. Riley Pebbles of Riley Pebbles & Co., manufacturers of boots and shoes, Natick, Mass., comparing cotton manufacturing in North Carolina with that in New England, takes for illustration in a letter to the MANUFACTURERS' RECORD Wiscasset Mill No. 1 at Albemarle, N. C. He says:

"Wiscasset Mill No. 1 of Albemarle, N. C., is 575x75 feet. Two-thirds of it is two stories high and one-third of it one story. It has 22,000 spindles, making hosiery yarn. It was built in 1898. It has 300 acres of land, five graded school-houses, a Methodist church, about 75 double and single tenement-houses, each dwelling with 16,000 square feet of land and no piggery allowed on the premises. The operators are all white. They move from their hovels into mill tenements. Only 10 or 12 per cent. of them can read or write, but the mills build schoolhouses and churches, support them and pay all bills. Some of the children are from 16 to 21 years old, and over 85 per cent. of them commence in the A B C class. * * * In North Carolina factories and building of any kind cost only one-half as much as the same would cost in New England. This gives North Carolina a great advantage in capitalized real estate. The real estate of the Wiscasset Mill is worth \$110,000. The same in Massachusetts would be worth \$220,000. Massachusetts mills are nearly all three, four and five stories high, as compared with one and two-story mills in North Carolina."

The Holston Manufacturing Co.

It is stated that the Holston Manufacturing Co. of Lenoir City, Tenn., has completed its spinning mill, an addition which has been in course of construction during the year. The company expects to have all the new machinery in position by the end of this month, and will then be able to manufacture the yarns consumed in its knitting department. About a year ago the MANUFACTURERS' RECORD referred to the decision to provide this enlargement, and it was then stated that the plan was to erect a modern mill building to be equipped with 10,000 mule spindles and to add a number of knitting machines to the knitting department, which then had 400 machines in position. The cost of the improvements was reported to be \$100,000. Messrs. Charles Chipman & Sons of Easton, Pa., manufacturers of knit goods, purchased an interest a year ago in the Dixie Mills and changed the name to the Holston Manufacturing Co. and then instituted the enlargement mentioned.

The Additional Mallison Mill.

Further particulars have been received by the MANUFACTURERS' RECORD as to the additional mill which the Mallison Braided Cord Co. of Athens, Ga., will build at Comer, Ga. This project was referred to last week. The company has purchased lands and riparian rights which will be developed to furnish 500 horse-power for transmission by electricity throughout the new plant. The latter will be equipped with 5000 spindles and complement of machinery for the production of yarns,

twines, etc. No contracts have been awarded as yet for mechanical equipment, and the company is prepared to receive estimates for water-wheels to develop 500 horse-power on a 40-foot fall, a 400-kilo-watt generator, several electric motors, etc. Address L. F. Edwards, president, at Athens, where the company now has a 2000-spindle plant for making braided cord and kindred articles.

The Laurel Cotton Mills.

Dispatches from Laurel, Miss., state that the Laurel Cotton Mills will add 8500 spindles to its plant in order to increase the output so that demands for sheeting and drills can be met promptly. This company has a plant of 10,400 spindles and 640 looms at present, together with the necessary accompanying apparatus and power-house, and it is capitalized at \$225,000. Construction work will not be begun until after the first of the year. Plans and specifications for the required building and the equipment of textile machinery will be ready by that time. This enlargement will increase the company's annual consumption of cotton to 10,000 bales and give employment to about 125 more persons.

To Double Its Mill.

A meeting of the stockholders of the Ide Cotton Mills has been held and it was decided to add 6000 spindles to the present equipment at Jacksonville, Ala. This will involve an expenditure of probably \$70,000, and it is stated the company will arrange at once for the purchase of the new machinery. Contract has been awarded for 15 cottages for the additional operatives who will be needed. This company was organized about a year ago and began operations with 6000 spindles. At the end of this year it intends to declare a dividend of 6 per cent. as the result of its first year's operations. J. E. Henry of Lincoln, N. H., is president, and George F. Ide of Jacksonville, treasurer, of the company.

The Oakland Manufacturing Co.

Brief reference was made in the MANUFACTURERS' RECORD of last week regarding the new cotton-mill company to be organized in Gastonia, N. C. It may now be stated that the enterprise will be known as the Oakland Manufacturing Co., and it will be chartered under this title with a capital stock of \$60,000 and privilege of increasing to \$200,000. Messrs. C. B. Armstrong, George A. Gray, W. T. Rankin and R. P. Rankin are the principal stockholders. They have purchased a site, including 25 acres of land for operatives' cottages and other buildings, and will erect the main structure of a size large enough to hold an equipment of 5000 spindles for manufacturing fine yarns.

The Dublin Cotton Mills.

Last June the MANUFACTURERS' RECORD told of the decision of the Dublin Cotton Mills to add 3100 spindles to its 5000-spindle mill at Dublin, Ga. This enlargement has been progressing steadily, and the machinery is now being installed. Some of it is already in operation, and all will be in position by January 1. By adding this equipment the company will be prepared to spin all the yarns required for weaving purposes by its 260 looms, the product being four-yard sheeting. Approximately \$50,000 is the cost of the betterments, which include the erection of a 70x100-foot building.

Mill for Cornelius, N. C.

In September the MANUFACTURERS' RECORD mentioned that there was some talk of organizing a cotton-mill company at Cornelius, N. C. This project is now

being given consideration and a company capitalized at \$50,000 will probably organize in the near future. Messrs. J. B. Cornelius, R. J. Stough, T. A. Stough, F. C. Sherrill, J. R. Withers and T. S. Williamson are the promoters. They propose manufacturing coarse yarns, and an equipment of 2000 spindles has been talked of.

Big Mill Proposed.

There is a movement on foot at Concord, N. C., for the erection of a large cotton-manufacturing plant in that city or its vicinity. Glass, N. C., and Whitney, N. C., being under consideration. Mr. James W. Cannon of Concord is stated to be the leading promoter of this new enterprise. He is interested extensively in North Carolina cotton mills, being president of three Concord companies with an aggregate capital of \$720,000.

The American Hosiery Mills.

The American Hosiery Mills (Kerner Bros., offices at Winston, N. C.), Kernersville, N. C., has awarded contract for a large number of additional knitting machines. These machines will be installed in order to largely increase the company's production for 1906 and meet the demands of the trade for \$4-needle half-hose.

Textile Notes.

The Carpenter Manufacturing Co. of Stanley, N. C., has completed the installation of its plant for manufacturing cotton batting, and has been operating it for some weeks past. It contemplates making mattresses also. Its capital stock is \$10,000.

The Portsmouth Cotton Mills of Portsmouth, Va., recently referred to, has organized with J. Thompson Parker, president; S. P. Oast, vice-president and treasurer, and G. R. Parish, secretary. This company's capital stock is \$40,000, and it will operate the knitting mill owned by the Portsmouth Cotton Manufacturing Co. and now under lease which expires January 1.

The Woodlawn Cotton Mills of Mt. Holly, N. C., reported in October as applying for charter, will soon receive articles of incorporation and then effect organization. This company will have a capital stock of \$80,000 and build a cotton factory equipped with 5000 spindles, as previously stated. C. E. Hutchison, secretary-treasurer of the Nims Manufacturing Co., operating a yarn mill at Mt. Holly, will probably be manager of the Woodlawn Cotton Mills.

Cotton-Oil Outlook.

J. W. Black, district manager at Montgomery for the Southern Cotton Oil Co., says the volume of this season's oil-milling business is scarcely three-quarters of that of the previous season. Profits to any extent are so far problematical. High-priced seed oil \$16 per ton, with a scarcity at this, is a contributory factor in this respect, with crude oil at 23 cents f. o. b. Montgomery and coke \$23 per short ton. At New Orleans the outlook appears somewhat hopeful, however.

Pennsylvania Builders.

At the convention last week of the Pennsylvania State Association of Builders' Exchanges the open-shop principles were ratified. The officers elected were Messrs. E. J. Detrick of Pittsburgh, president; C. E. Woodnutt of Williamsport, C. E. Uhdey of Warren, vice-presidents; E. S. Williams of Scranton, secretary, and William Hanley of Bradford, treasurer.

A new well with an estimated capacity of 12,000,000 feet of gas daily was brought in last week in Kanawha county, West Virginia.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Wood Distillation.

Under recent date the United States Department of Agriculture announces that as wood distillation has been tried so extensively in this country of late and has been brought so prominently to the attention of the Forest Service as a means of utilizing waste in lumbering, that branch of the department will institute an investigation to find out what has been and what may be done to reduce the industry to more scientific principles and to place it upon a sound commercial basis. Mr. Thomas W. Pritchard, a practical expert in wood distillation, who for several years has been connected with successful distillation plants in the South, has been engaged to do the work and will at once communicate with owners of wood-distillation plants throughout the country in order to determine to what degree of success the business has reached. He will investigate carefully the methods which have resulted most successfully and endeavor to extend their use, paying particular attention to the extent to which lumbermen may adopt wood distillation as a means of using the waste from saw-mills, etc. It is the purpose of the Forest Service not to confine its investigation to one process of wood distillation, but to critically examine several. From a plant as described in its circular announcing its intention the Department states that with a capacity of 100 cords of wood every 36 hours an approximate yield of from 75 to 100 gallons of oil or tar per cord and from 10 to 15 gallons of wood turpentine should be had, beside producing about 25 bushels of charcoal, together with other products. Wood distillation is particularly applicable to the utilization of waste material both from lumber mills and from cut-over pine forests of the South. Mill waste containing resinous products, as well as down timber and stumps in cut-over forests, can be used, and in many cases roots as well as stumps are good for distillation. The Forest Service announces that it is anxious to secure the hearty co-operation of all who are interested in the industry, and will be glad to receive and consider ideas and suggestions of a practical nature.

Turpentine Operators.

The fifth annual convention of the Turpentine Operators' Association was held at Jacksonville, Fla., last week in a two days' session beginning on December 6. In its representation, numbering about 400 delegates, the States of Florida, Georgia, Alabama, Mississippi, Louisiana and Texas were represented. Before adjournment the association adopted a resolution declaring that the maintenance of fair prices during 1906 demands a 50 per cent. reduction in the "box cut" and binding the members to observe the reduction. Officers elected for the ensuing year are: Messrs. A. D. Covington, president; W. H. Hillman, vice-president; J. A. Hollomon, secretary; R. M. Sassnett, treasurer. The executive committee is composed of Messrs. A. D. Covington, W. J. Hillman, T. C. Hall, W. M. Toomer, A. P. Mallory, J. A. Hollomon, D. R. Edwards and R. M. Sahl.

Foreign Markets.

Managing Director S. Rubenstein of the Great Eastern Timber Co. of London, England, who is in this country in the interest of his company, was reported recently from New Orleans, La., as saying that the European market is handling large quantities of long and short-leaf yellow

pine, but not much cypress. He finds the American market very favorable for the supply of this demand, stating that not long ago English lumbermen could supply their wants from their own market, but at this time it is impossible to do so on account of the domestic demand. Drawing a distinction between the English and London markets, he says that as England is a free-trade country, lumber shipments from all parts of the world go to London and dealers find it possible to purchase foreign lumber below the market value of the English product. Referring to the continental market, he states that there is apparently an opening for American lumber in Denmark, Norway and Sweden, as these countries are beginning to use it for manufacturing purposes, while France and Germany require more of it. There is a market all over England and Germany for pitch pine.

Cigar-Box Factory.

Col. I. F. Peters, F. K. Spicer, W. R. Johnston and R. A. Given of Memphis, Tenn., and E. J. Pennypacker of Philadelphia, Pa., have incorporated the Memphis Cigar Box Co., with a capital stock of \$10,000, for the purpose of locating a plant for the manufacture of all kinds of small wooden boxes, candy boxes and cedar tray boxes, etc., at Memphis. Machinery has been purchased and will be installed at once, the intention of the company being to increase its capital stock in the near future in order to provide more extensive manufacturing facilities. Contracts will be made for lumber, which is shipped from the West Indies to New York and Cincinnati and cut into proper lengths. With the exception of similar plants in New Orleans, La., the establishment of this plant is said to be the only one south of the Ohio river.

Increasing Facilities.

Reports from New Orleans, La., state that the Naval Stores Exporting Co. contemplates the concentration of its business at New Orleans, and for this purpose has made application for an additional block of ground to facilitate its plans. It is stated that the company has secured two blocks on the Illinois Central Railroad Co.'s tracks between Johnson and Priour streets, and wants the additional block in order to handle the schooner trade. The executive committee of the canal board is considering the application. Should the additional ground be acquired it is said to be the purpose of the company to erect warehouses, refineries, etc., at once. The Naval Stores Exporting Co., which is capitalized at \$5,000,000, is at present operating branches at Tampa, Pensacola and other points in Florida.

Baltimore Lumber Exchange.

At the thirty-second annual meeting of the Baltimore (Md.) Lumber Exchange the following officers were elected: Messrs. William M. Burgan, president; Edward P. Gill, vice-president; Parker D. Dix, treasurer. A managing committee composed of Messrs. Richard W. Price, Samuel P. Ryland, Jr., Lewis Dill, Norman James, Theodore Mottu, Edward P. Gill, George F. Sloan, George W. Eisenhauer, Luther H. Gwaltney, George Poehlmann, Henry P. Duker and John T. Galvin was also appointed.

Increased Capital Stock.

Stockholders of the Naval Stores Export Co. of Jacksonville, Fla., have increased the capital stock from \$1,250,000 to \$2,000,000 and made arrangements whereby prices for the coming season are said to be fully guaranteed. The company has sold all turpentine and rosin on hand, including receipts for the remainder of the

season, at satisfactory prices, and through its efforts is said to have practically made an open market for naval stores at all Florida ports except Pensacola.

Big Lumber Purchase.

Referring to recent reports of extensive timber deals of J. A. Wilkinson of Bristol, Va.-Tenn., it can be accurately stated that Mr. Wilkinson has purchased a large block of lumber to be delivered on the Danville & Western Railroad, which connects with the Southern Railway at Winston-Salem, N. C. The purchase does not include the timber, only the output of the mills located on the tract, which is estimated to cut 17,000,000 feet, requiring about three years to develop.

To Erect Coopersage Plant.

Messrs. R. H. Downman of New Orleans, La.; James B. Patterson, Frank C. Plattz, Henry Plattz and Fred Plattz of Michigan, W. B. Brazleton of Texas and A. C. Johns of Whitecastle, La., compose the board of directors of the Whitecastle Coopersage Co., Limited, which has been incorporated with a capital stock of \$100,000. The company will begin the construction at once of a large coopersage plant at Whitecastle.

Manufacture Wood Alcohol.

A dispatch from Staunton, Va., states that Charles F. Squibb of Squibb & Son, Brooklyn, N. Y., has purchased from J. H. Cross of West Augusta, Va., extensive holdings in the vicinity of West Augusta, including a farm, hotel, stove mill, etc. The purchaser will establish a plant for the manufacture of wood alcohol, utilizing for this purpose timber which he has acquired.

J. S. Barret, Lumber.

Mr. J. S. Barret, lumber and timber broker, with offices in City Bank & Trust Co.'s building, Mobile, Ala., reports prosperous conditions in his line. He exports quite largely to Great Britain and Europe all grades of lumber and timber, as well as hardwood logs.

Lumber Notes.

Messrs. P. Long & Co. of Pensacola, Fla., have received a contract for placing 2,000,000 shingles on the buildings of the Alger-Sullivan Company at Century, Ala. Work will be started as soon as possible.

The bark Matanzas recently cleared from Norfolk, Va., for the Isthmus of Panama with a cargo of creosoted lumber and piling from the plant of the Atlantic Creosoting Co. The cargo consisted of 400,000 feet of lumber and 20,000 feet of piling.

A dispatch from Berkeley, Va., announces that N. S. Smith, creosoting inspector for the Intercolonial Railway of Canada, has received specifications for six cargoes of creosoted piles to be prepared for winter and spring shipment. The order amounts to more than 3000 piles from 35 to 80 feet long.

Mr. O. Daniels, representing the Chicago, Burlington & Quincy Railway Co. and the Chicago, Milwaukee & St. Paul Railway, is making a tour through the Southern timber States for the purpose of purchasing 500,000 feet of pine and oak timber. He is said to have purchased 67,000 feet of pine at De Queen, Ark.

The British steamship Twilight cleared from Pensacola, Fla., last week with a cargo of nearly 2,500,000 feet of lumber and 14,000 feet of hewn timber, consigned to St. Nazaire and Hamburg. It is anticipated that extra large cargoes of lumber and timber will be shipped from Pensacola during the present month, several vessels being scheduled to leave within a few days.

FOREIGN LETTERS

The MANUFACTURERS' RECORD is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. Some of these letters indicate the disposition of foreigners to buy American goods, and are therefore of interest to our readers.

Machinery for Italy.

I. E. Macchi, No. 13 Via Pirini, Milan, Italy:

"I should like to become a representative in Italy of American manufacturers of machine tools, especially modern lathes and drilling and milling machines of high grade. I have had nine years' shop practice, and an accurate knowledge of American systems enables me to understand the quality of machinery and to judge of its adaptability."

PHOSPHATES

Demand for Fertilizer.

Anticipating a heavy demand for commercial fertilizers, factories in the vicinity of Savannah, Ga., are preparing for the movement which is expected to begin about January 1. Large quantities of kainit, pyrites, potash and nitrate of soda have already been received for the supply of local plants, and cargoes are coming in constantly. It is understood that the railroads entering Savannah have not yet begun to make preparations for handling outgoing shipments, but, because of the steady increase in their rolling stock, will be in a better position than heretofore. A similar condition exists at Charleston, S. C., where preparations are also being made to meet an exceptionally heavy demand for fertilizers. Peruvian guano has begun to arrive at this port, and other cargoes are said to be on the way. As is the case at Savannah, this prospect for a heavy demand is indicated by the reports of traveling men to the effect that orders for fertilizers bid fair to be heavy, beside the fact that cotton is now selling at a high price.

Phosphate and Fertilizer Notes.

The fertilizer factory under construction at Hawkinsville, Ga., for W. A. Jells & Co. is about complete. Mr. Jells' present address is Macon.

The Istachatta Phosphate Co. of Ocala, Fla., has been incorporated with a capital stock of \$35,000 for the purpose of mining, manufacturing and dealing in phosphate, etc. Officers of the company are: Messrs. Colin C. Wyllie, Sr., president; Emile Van Espen, vice-president; Colin C. Wyllie, Jr., secretary and treasurer. With the officers, Messrs. Henry Korts and O. T. Green compose the first board of directors.

Southern Engineers.

At the annual meeting this week at Birmingham, Ala., of the Engineering Association of the South addresses will be made by G. M. Ingram on "The Engineer in Society," E. L. Stream on "The Engineer and the Stegomyia Fasciata," E. A. Kingsley on "Municipal Engineering," Woolsey Fennell on "Panama Canal, the South and the World," A. W. Evans on "Mines, Gold and Other Kind," James Bowron on "The Birmingham District," and E. M. Linn on "The Water-Works."

The Mississippi Lumbermen's Association met at Jackson last week with B. A. Tucker of Senatobia presiding and W. G. Harlow, secretary. The next meeting of the association will be held at Jackson in April.

A factory at Miami, Fla., is manufacturing pillows and mattresses with sponge as the main material.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

IRONTON TO THE SEA.

Probable Outcome of the Cincinnati, Hamilton & Dayton Proceedings.

Since the refusal of the Erie Railroad Co. to purchase the Cincinnati, Hamilton & Dayton Railroad and the subsequent receivership of the latter, followed by legal and syndicate proceedings, it is anticipated that, after all, the original plan projected prior to the Erie deal to build a connection and make a through route to tidewater on the South Atlantic coast will be carried out.

It appears probable that J. P. Morgan & Co. and associates, who are said to include Norman B. Ream, H. McK. Twombly, George F. Baker and others, will, after the receivership and other court matters are disposed of, set about getting the road its desired Southern connection, perhaps via the South & Western Railway and the Seaboard Air Line, in both of which Mr. Ream is interested. Indeed, the fact that Mr. Ream, who is a director in the Seaboard, and who was one of Mr. Thomas F. Ryan's associates in the purchase of control of the Clinchfield corporation, which is allied with the South & Western Railway, should now be one of a syndicate to hold the Cincinnati, Hamilton & Dayton is thought to be very significant. To make the necessary connection from Ironton, Ohio, to the "Breaks" of the Big Sandy river in the Cumberland mountains the construction of about 100 miles of road is all that would be necessary. This line would run through the eastern part of Kentucky near the West Virginia border, and as several charters have been reported during the past year to permit the building of railroads in that section, it is possible that the construction of this connection will be facilitated by the acquisition of one or more, as might be necessary, of these legal authorizations.

As yet, however, there has been no announcement of such a plan, although it has been several times reported that Eugene Zimmerman, now president of the Detroit, Toledo & Ironton Railroad, would build such an extension to coal fields in Eastern Kentucky, using the new bridge now being erected at Ironton to cross the Ohio river. It is therefore at least possible, with not a small degree of probability, that, after all, the various interests concerned in such a proposed extension will get together and carry out the project. That such a railroad will be built seems practically assured, for the vast mineral wealth in that region to be traversed by the road is so great that it cannot remain idle and undisturbed. Messrs. Zimmerman and associates have, it is said, about 350,000 acres of land in the Northern Coal & Coke Co., a territory which is wonderfully rich in coal, and the development of this tract will assuredly be undertaken.

The possibilities of building a railroad from Ironton down through Eastern Kentucky are so great, considering the natural wealth of that part of the State, that it is not too much to say that should Mr. Morgan and his friends carry out the plan he would make much more money in the end than he ever would have done by carrying out the proposed deal with the Erie.

RICHMOND & CHESAPEAKE.

Contracts Let for Frank J. Gould's Electric Railway as Far as Ashland.

Mr. C. P. E. Burgwyn, chief engineer of the Richmond & Chesapeake Bay Railway Co., writes from Richmond, Va., to

the MANUFACTURERS' RECORD giving data concerning the division that is to be built between Ashland and Richmond. He says:

"The road starts at the intersection of England and Maple streets, Ashland, and goes directly south on its own right of way through the town of Ashland on a line parallel to Maple street until it reaches the corporate limits; it then takes a long tangent and reaches the Chickahominy river on a route almost straight and with grades either level or slightly downhill until the Chickahominy river is crossed. This will be done on a steel viaduct with a short span of 60 feet, a point having been found where the granite outcrops from the river bed at an ideal place for crossing. The route then continues straight on, passing through part of the battlefield where General Stuart was killed, near Yellow Tavern, in 1864, and reaches the head of the Brook turnpike at a point about a quarter of a mile west of the same.

"The ascending grade from the Chickahominy river is approximately the same as the descending grade to it, viz., one-half of 1 per cent. After reaching the head of the Brook turnpike the road parallels it for about two miles, making a long descent through a 1 per cent. grade across the Upham brook and ascending back of the Emmanuel Church property reaches the Brook turnpike by crossing through the estate of the late Major Lewis Ginter. It then goes down the Brook turnpike for about three miles until the outskirts of Richmond are reached, when the road reaches an overhead structure and passes through the city on a private right of way to the intersection of Broad and Laurel streets. The total distance from Broad street, Richmond, to England street, Ashland, is 14.9 miles.

"Connection is had at Ashland with the Richmond, Fredericksburg & Potomac Railroad, and at Richmond with the Seaboard Air Line.

"Bids were opened for the grading on December 1, 1905, and the work was awarded on the first division, i. e., from Ashland to the Hungary road, to H. H. George, Jr., and on the second division to Messrs. Phillips & Allport.

"The overhead structure in the city of Richmond will be about 2900 feet long. The contract for its construction has not yet been let. The highest point reached by this viaduct is over the Bacon's Quarter branch, and is 70 feet above water-level there."

Mr. H. H. George, Jr., 1831 Monument avenue, Richmond, Va., writes the MANUFACTURERS' RECORD that his contract on the Richmond & Chesapeake Bay Railway is for nine miles, and that of Phillips & Allport is for three miles.

Norfolk & Western's New Book.

The Norfolk & Western Railway has just issued a very comprehensive and exceedingly interesting official guide, which presents in a lucid and entertaining manner a multitude of facts relating to the resources of the country tributary to the system all the way from Norfolk, Va., to Columbus and Cincinnati, Ohio, and from Hagerstown, Md., to Bristol, Tenn.

This book of more than 300 pages, edited by Mr. Walter H. Henderson, is profusely and handsomely illustrated with views of iron, coal, lumber, agricultural and other industrial developments along the lines, and also of natural beauties of stream, field, woodland and mountain. Other scenes pictured are from towns and cities, but none the less interesting and impressive. Anyone in quest of information concerning the regions penetrated by the Norfolk & Western can find what he seeks within the covers of this publication. Of course, mineral development,

especially coal and coke, is given a prominent place in the volume, for the Norfolk & Western is a great fuel-carrying railway, and its facilities for transporting all products of the mine are not only very extensive, but thoroughly modern. It has a great coal terminal at Lambert's Point, near Norfolk, and another on the Ohio river at Cincinnati, besides other coal-handling equipments at various division and terminal points elsewhere on the line. A large full-page half-tone photograph shows one of the company's coal trains, composed of 50-ton cars, fully loaded and on its way to the seacoast for shipment by vessel to Eastern States as well as abroad. The production of iron and zinc are among other mineral industries on this railroad, and much fine building stone is also quarried.

Yet great as are the mineral resources and development, the farming growth and riches in the territory penetrated by the line are in their way equally impressive and encouraging. From the great tobacco, cotton and peanut fields of Southern Virginia and North Carolina to the rich farms of the Scioto valley in Ohio is a long way, but the trains of the Norfolk & Western pass them all, as well as the fine stock farms of the Virginias and Kentucky.

Who looks upon the pages of this book, with its sparkling facts graphically related and attractively pictured, cannot fail to be impressed by the greatness of the Southern country, albeit the region traversed by this railroad is only a portion of this broad section, the general magnitude of which is yet no more than half understood except by those who have made it a study.

WESTERN MARYLAND.

Surveys for Pittsburg Extension—Connection to Cumberland Nearly Finished.

While the recent press report that the George's Creek & Cumberland Railroad had been acquired by interests associated with the Western Maryland Railroad is denied, there seems to be good reason for the belief that an understanding has been reached by which the Western Maryland can secure the property whenever it may be needed for part of the proposed connection from Cumberland to the Wabash at Pittsburg. Its particular value for such a purpose lies in the fact that it affords a route through the mountain at the "Narrows" of Wills creek immediately outside and north of Cumberland.

Mr. F. S. Landstreet, vice-president of the Western Maryland, is quoted in a dispatch from Pittsburg as contradicting the report of the purchase, but as tacitly admitting that the property could be obtained when required. He is also reported as saying that there are about 12 engineering parties in the field looking for available routes for a connection between either the West Virginia Central and the Wabash or the Western Maryland and the Wabash, either at Pittsburg or via Wheeling. He did not, however, indicate the probability of any early decision concerning the building of the proposed connection.

Construction on the connection between the Western Maryland Railroad and the West Virginia Central Railway is rapidly approaching completion. At the company's office in Baltimore it was stated that 58½ miles of main-line track have been laid out of the 65 miles between Big Pool and Cumberland, and that the entire extension would be completed by the middle of January or the first of February. The only break in the line is at the Kessler tunnel, about 30 miles east of Cumberland, and the work there is being pushed as fast as possible.

The Western Maryland has also started

on a continuation of the second-track work north of Walbrook Station, in the suburbs of Baltimore, having let a contract to the Chesapeake Construction Co., Percy B. McLaren, president, this contract covering two miles and including some difficult work. A short distance north of Walbrook Station is a trestle about 60 feet high, which will be replaced by a stone arch and a big fill. The grading and alignment will also be improved.

TIDEWATER CONTRACTS.

Practically the Entire Line Now Turned Over for Rapid Construction.

Mr. H. Fernstrom, chief engineer of the Tidewater Railway, writes the MANUFACTURERS' RECORD from Norfolk, Va., saying: "Contracts have been awarded on the Tidewater and Deepwater railways as follows:

"Section A—From Southern Railway crossing near Hurt, Va., westerly 20 miles, to J. G. White & Co., 43 Exchange Place, New York.

"Section B—From Meherrin, Va., easterly 22 miles, to A. & C. Wright & Co. and W. R. Bonsal & Co., Hamlet, N. C.

"Section D-2—From Brookneal easterly 6½ miles, to Butler Bros. Construction Co., 1170 Broadway, New York.

"Section E—Brookneal westerly 20 miles, to Carpenter, Frazier, Boxley & Co., Clifton Forge, Va.

"Section F—From Southern Railway crossing near Hurt, Va., easterly 32 miles, to Lane Bros. Co., Esmont, Va.

"Section G—From Roanoke easterly 23 miles, to D. A. Langhorne & Co., Alderson, W. Va.

"Sections H, I, J, K, L—From Roanoke to Bluestone river, 112 miles, to MacArthur Bros. Co. and Arthur F. MacArthur, Chicago, Ill.

"Active operations will be commenced at once and the entire road completed for operation December 1, 1907."

The awarding of these contracts puts practically the entire line of the Deepwater and Tidewater railways under construction.

GREENVILLE & YAZOO.

A Projected Railway Which Will Develop Valuable Timber Land.

Mr. W. A. Everman, secretary and treasurer of the Richey Land, Improvement & Manufacturing Co., writes from Greenville, Miss., to the MANUFACTURERS' RECORD saying that charter has been applied for the Greenville & Yazoo Railway Co., but that organization has not yet been effected. Continuing, he says:

"Charter members, W. A. Everman, W. W. Stone, W. H. Negus, J. H. Leavenworth and E. R. Wortham. Initial point is Greenville, running southeasterly to Swan Lake, 30 miles, for first section; thence east to Yazoo City for second section, and probably for third section southwest from Swan Lake to Benlomon, on the Mississippi river opposite Lake Providence, La.

"The purpose of the road is to afford transportation to the lumber to be cut on about 80,000 acres of timber in the Black bayou country in Washington county, Mississippi, and to afford transportation facilities to the timber as well as products of highly-improved sections tributary along the second and third sections named.

"This line will be vigorously prosecuted to final completion in the near future. Greenville is postoffice address of all incorporators."

Railroad to Develop Coal Lands.

Mr. Edward M. Craig, secretary of the Kanawha & Pittsburg Coal Co. and also of the Charleston, Parkersburg & Western Railroad Co., writes from Charleston, W. Va., to the MANUFACTURERS' RECORD that

both companies have taken out charters and will develop the Bruen lands of 100,000 acres. About eight miles of the railroad have been located, and Mr. Craig says that the line will shorten the distance to all western and northern parts of the State of West Virginia by 100 miles. It will also traverse a thickly-settled section, and it is anticipated that an extension north-west, perhaps to Cleveland, will be built.

The directors of the two companies are the same, viz., A. S. Alexander, president; C. P. Peyton, vice-president and general manager; Edward M. Craig, secretary and treasurer; W. S. Laidley, statutory attorney; Alexander J. Bruen, R. B. Cassidy and F. M. Staunton, all of Charleston except Mr. Bruen of New York city.

Arnaudville to Port Barre.

Mr. E. B. Cushing, general superintendent of the Morgan's Louisiana & Texas Railroad & Steamship Co. and the Louisiana Western Railroad Co., writes from New Orleans, La., to the MANUFACTURERS' RECORD saying:

"The line which this company proposes to build to Port Barre, La., will be about 12 miles in length, beginning at Arnaudville, the present terminus of the branch, which leaves the main line at Cade Station, 133 miles west of New Orleans. The line will extend up the fertile valley of Bayou Teche all the way. It will pass through only one existing village—Leonville. There are no existing roads in this territory. The survey of the Colorado & Southern from Opelousas to Baton Rouge is located through the town of Port Barre.

"The engineering of this line is being handled in my office. No date is set for opening bids, but it is thought that this will be done early in January."

Mr. Yoakum's New Position.

The election of B. F. Yoakum as chairman of the executive committee of the Chicago, Rock Island & Pacific Railway is announced. He succeeds Robert Mather, general counsel of the company, who is president of the Rock Island Company, which controls the railway company and other Rock Island properties. Mr. Yoakum has been for some time chairman of the board in the Frisco system, which he built up. D. G. Reid is chairman of the board of the Chicago, Rock Island & Pacific.

Particular interest attaches to the growing prominence of Mr. Yoakum in the Rock Island because of his prominence also in the project of the Colorado Southern (by building links and connecting up existing roads) to make a through line from Denver to New Orleans. As both companies penetrate to some degree the same territory in the South, important results are not improbable.

New Equipment.

The Pennsylvania Railroad Co., according to a press report from Philadelphia, has ordered 200 heavy freight locomotives from the Baldwin Locomotive Works for delivery next year, this being in addition to the contract for 250 engines lately awarded. The railroad company will also, it is said, build from 200 to 250 passenger engines at its Altoona shops. Some of these engines will go to the Long Island Railroad. It is furthermore reported that the Pennsylvania lines west of Pittsburgh will require 150 new engines next year.

Atlantic & Birmingham.

Control of the Brunswick Dock & City Improvement Co., which owns lands with five miles of water-front at Brunswick, Ga., is reported to have passed to interests identified with the Atlantic & Birmingham Railway, which is now building a line from Brunswick to Birmingham, Ala.

A New York dispatch says that John L. Campbell, A. B. Le Far and G. R. Cooper have been elected directors, and that Hoke Smith of Atlanta will be elected president of the dock company.

Denied by Mr. McHarg.

Mr. Henry K. McHarg, president of the Virginia Iron, Coal & Coke Co., 40 Wall street, New York, writes the MANUFACTURERS' RECORD saying that there is no truth in a recent press report from Bristol, Tenn., which said that George L. Carter, Thomas F. Ryan and others had purchased the Virginia Iron, Coal & Coke Co. and the Virginia & Southwestern Railway.

Green River Valley Railroad.

Mr. J. F. Allen writes from Somerset, Ky., to the MANUFACTURERS' RECORD that the Green River Valley Railroad will extend from Standford to Scottsville, Ky., 100 miles. There will be a correction of the old survey about January 15. It will go through Green river valley with practically a good grade. Bids for construction will not be opened before April 1 next.

Railroad Notes.

Mr. D. W. McKellar has been appointed soliciting freight agent of the Southern Railway at Memphis, Tenn., vice Mr. H. S. Lemmon, promoted.

F. A. Molitor, chief engineer of the Midland Valley Railroad, with headquarters at St. Louis, has been appointed supervisor of railroads in the Philippine Islands. He was formerly chief engineer of the Choctaw, Oklahoma & Gulf Railway, now a Rock Island line.

A Galveston dispatch quotes J. A. Spanier, European agent of the Gould railways and president of the Chamber of Commerce at Naples, Italy, as saying that in the near future the Gould lines will have a line of independent steamers running between Galveston and European ports carrying immigrants and freight.

Seeking a Location.

In a letter to the MANUFACTURERS' RECORD the Indiana Bent Rung Ladder Co. of Indiana, Pa., states that it has made a personal investigation of a number of locations in the South, but has not as yet determined upon a site for the plant it will build in the section. Possibly organizations which assist in locating industries in their territory can correspond with the company to advantage.

The National Lime Association offered recently a prize of \$100 for the best paper on the use of lime as compared with gypsum plaster for plastering purposes. The prize has been awarded to R. S. Edwards, B. S., and his paper has been published by the association in pamphlet form, appealing to builders and contractors generally. The officers of the association are Messrs. Charles Warner of the Charles Warner Company, Wilmington, Del., president; E. H. Defebaugh of Louisville, Ky., secretary; C. W. S. Cobb, Glencoe Lime & Cement Co., St. Louis, treasurer; O. F. Perry, Rockland, Rockport Lime Co., New York city; W. B. Hill, Ash Grove White Lime Association, Kansas City, Mo., and A. A. Stevens, American Stone & Lime Co., Tyrone, Pa., vice-presidents.

Shipbuilding operations at Jacksonville at present include the construction of 11 steel barges for the Isthmian Canal Commission, two large wooden lighters for the Florida East Coast Railway, a molasses steamer for Cuba, an \$80,000 floating dock, a four-masted schooner, a motor houseboat and a \$10,000 yacht. It is no wonder that the Times-Union expects Jacksonville to become a great shipbuilding center.

MINING.

Preparations for Coal-Mining.

The Louisiana-Alabama Coal Co. of New Orleans, La., S. B. McConico, president, which was recently incorporated with a capital stock of \$200,000 for the purpose of conducting mining operations, etc., on a tract of 3320 acres of coal lands near Phil Campbell in Alabama, is making active preparations to begin work. A force of men is at present opening seams on the property in order to ascertain relative levels. After this is accomplished the location of the mining plant will be determined. It is stated that the company has made satisfactory arrangements with the Southern Railway relative to the construction of a spur track to connect the main line of the railroad with the plant. In connection with the opening of mines a tippie, trestle, houses, etc., will be erected, and to facilitate this work a saw-mill will be installed immediately by the company to provide lumber, using timber from its own lands, at the same time sawing a large quantity of merchantable white oak and poplar. The quality of the coal on the property is said to be the Black Creek seam. An investigation is being made also of coal lands near Russellville, Ala., for the Louisiana-Alabama Coal Co., which is thought to contain large deposits of the same quality of coal.

To Work Coal Lands.

What is perhaps the initial step in the development of 100,000 acres of coal property known as the "Bruen lands," located just north of the city of Charleston, W. Va., has been taken in the organization of the Charleston, Parkersburg & Western Railroad Co. and the Kanawha & Pittsburgh Coal Co. These two companies have been incorporated with the same officers and having the same board of directors. Mr. A. S. Alexander is president; C. P. Peyton, vice-president and general manager; Edward M. Craig, secretary and treasurer, and W. S. Laidley, attorney, all of Charleston. Including the officers, the board of directors is composed of the following additional members: Messrs. Alexander J. Bruen of New York city, R. B. Cassidy and F. M. Staunton, both of Charleston. It is claimed the property to be developed contains a fine quality of coal in two seams—one above water-level from 7 to 14 feet thick, known as the Pittsburgh seam, and one below water-level, stated to be about 11 feet thick. It is proposed to construct a railroad from Charleston extending through the tract, a location survey for eight miles of it having been made.

Organization Perfected.

At a meeting of the directors of the Tennessee Land & Coal Co. at Nashville, Tenn., last week the company was fully organized and will immediately begin operations on its holdings in Tennessee and the southern part of Kentucky. The property of the company is said to comprise about 300,000 acres of coal and oil lands in Wayne county, Kentucky, and Fentress, Overton, Cumberland and Putnam counties, Tennessee. It is stated that the lands are underlain with good deposits of coal, and work of development has already been begun in Wayne county, Kentucky. In addition to coal and oil, the property is covered by a growth of valuable timber.

To Operate Mines.

The George's Creek Fuel Co. has been organized with a capital stock of \$50,000; principal offices at Cumberland, Md. The following officers have been chosen: Messrs. Joseph V. McKenna of Cumber-

land, Md., president; E. C. Moore, New York city, secretary and treasurer; Edward P. McKenna, Cumberland, general manager; H. L. Kirby, New York city, general sales manager. The company will operate in Maryland, Pennsylvania and West Virginia, maintaining a branch office in New York.

New River Shipments.

Shipments of coal from the New River district of West Virginia for November show an increase of more than 24,000 tons over October shipments. The increase is said to be due to a better supply of cars during the last half of November. During the month 9728 cars, aggregating 438,845 tons, with 1174 cars of coke, were loaded. Shipments to tidewater amounted to 5125 cars, and inland shipments to 3080. A total of 301,000 tons were loaded in the Kanawha district during November.

Consolidating Properties.

Reports from Charleston, W. Va., state that E. P. Mucklow of Scranton, Pa., and associates, who recently secured options on several coal operations in the Paint Creek field, are about to consummate the deal. The operations include the Greenbrier, Nuckolls, Grose, Standard, Morton, Hickory Camp and Wacoma, and embrace about 8000 acres, producing at present 3000 tons daily. It is stated that the transaction involves a consideration of approximately \$600,000.

Coal Lands Sold.

Property of the Salisbury Coal Co., consisting of 1585 acres of coal lands located in the coal belt of Chesterfield county, Virginia, near Midlothian, has been sold to H. D. Eichelberger of Richmond, Va., for \$25,000. Regarding the purchase Mr. Eichelberger is reported as saying that he bought the property for the Ginter estate, and that it may be developed, but plans have not as yet been arranged.

Zinc Development.

A tract of 1000 acres of zinc lands in Claiborne county, Tennessee, near Tazewell, has been purchased by Messrs. Miller, O'Bryan, Smith & Elsom, who are preparing for extensive development work and expect to mine 100 tons of smelting ore per day. Additional information regarding this enterprise will be furnished by Prof. J. F. Elsom of New Albany, Ind., who is the consulting chemist.

Will Develop Coal Lands.

The Dingeness Run Coal Co. has had its title cleared to coal lands near Huntington, W. Va., and will proceed at once to develop the property. It is said to contain good seams of coal. Messrs. C. W. Campbell and J. L. Caldwell of Huntington and John Q. Dickenson of Charleston, W. Va., are interested in the Dingeness Run Coal Co.

Addresses of Zinc Smelters.

Mr. W. B. Smith, Illinois Life Building, Louisville, Ky., desires the addresses of zinc smelters that can use 40 per cent. ore to the extent of 200 tons per day.

It is stated that the charcoal furnace at Round Mountain, Ala., of the Round Mountain Iron & Wood Alcohol Co. will start as soon as a 30 days' supply of material can be secured. Up to the present time 30,000 bushels of charcoal have been received.

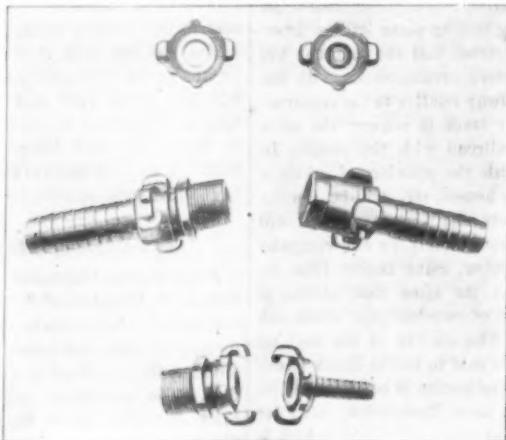
The Virginia-Carolina Chemical Co. is expecting about the end of the month between 50 and 100 Italians to take the place of negroes in its plant at Savannah.

MECHANICAL

The Chicago Hose-Coupler.

The Chicago Hose-Coupler was designed to meet the demand for a universal coupler whereby a plant once standardized could economically thereafter be maintained standard without extra expense for specially-constructed couplers to suit various sizes of hose used with pneumatic tools.

As to how perfectly the manufacturer



THE CHICAGO HOSE-COUPLER.

has succeeded is left to the decision of those requiring such equipment after a test of the device in question.

By reference to the accompanying illustration it will be observed the Chicago Coupler has no male or female part at coupling end proper, but instead each half has embodied therein both male and female features, whereby each and every half is exactly the same and will couple regardless of the size and style of the shank, rendering the same a universal coupler in every sense of the word. It will readily be seen that quarter-inch hose may be coupled with three-quarter-inch hose, one-inch pipe, or to anything having one of the Chicago Couplers attached to it.

The shanks are manufactured for pipe male thread, pipe female thread and hose in standard commercial sizes one-quarter inch up to one inch, which enables all couplings to be made without resorting to reducers or special shanks to meet the conditions presenting themselves where pneumatic tools are in use.

These couplers are manufactured by the Chicago Pneumatic Tool Co. of Chicago, Ill., which has arranged to carry a large stock constantly on hand, its manufacturing facilities being equal to 500 sets per day.

Scherzer Rolling-Lift Bridges.

A prominent feature connected with the handling of increasing railway traffic and the construction of the additional parallel tracks required is the construction of modern Scherzer Rolling-Lift Bridges. The Scherzer bridge can be constructed as a single-track structure and be enlarged to a double or multiple-track structure at any time without interfering with the existing bridge or disturbing the existing traffic by simply adding the new bridges alongside of the existing structure.

Some of the notable Scherzer bridges are: The four-track bridge for Metropolitan Elevated Railway Co., Chicago; double-track bridge for Chicago Terminal Transfer Railroad Co. at entrance to Grand Central Station, Chicago; eight-track bridge, Chicago, used by Pennsylvania lines west of Pittsburgh, Chicago Terminal Transfer Railroad, Chicago Junction Railroad and Baltimore & Ohio Railroad; single-track bridge used by Big Four Railroad, Lake Shore & Michigan

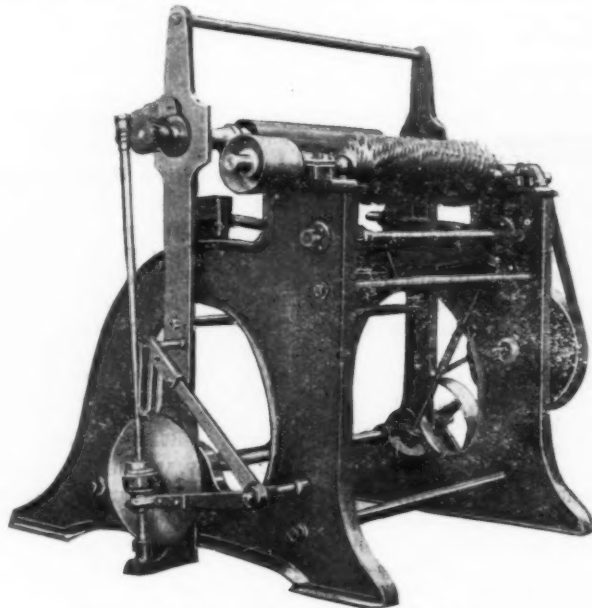
Southern Railway and Erie Railroad at Cleveland; double-track bridge used by Newburgh & South Shore Railroad, Cleveland; double-track bridge used by Baltimore & Ohio Railroad at Cleveland, replacing a single-track swing bridge; two used by Central Railroad Co. of New Jersey, Reading Railroad and Baltimore & Ohio Railroad across Newark bay, New Jersey; double-track bridge used by Boston, Revere Beach & Lynn Railroad; six-track Scherzer bridge at entrance to South Terminal Station, Boston; four-

track Scherzer bridge used by New York, New Haven & Hartford Railroad Co. at Bridgeport, Conn., replacing double-track swing bridge. There are now also under construction for this company four-track Scherzer bridges at Cos Cob, Conn.; Westport, Conn., and across Housatonic river, Connecticut; also across Neponset river, Massachusetts. A double-track Scherzer bridge is under construction across the Connecticut river, to be enlarged subsequently to a four-track structure. Six-track Scherzer bridges are also to be constructed across the Bronx river and across

the Buenos Ayres Great Southern Railway across Riachuelo river, Buenos Ayres, replacing a center-pier swing bridge.

The more than 40 Scherzer bridges already constructed for the use of electric railway companies have nearly all been constructed as double-track and multiple-track structures. They can readily be enlarged at any future time to accommodate increasing traffic and additional

activity. These features include the speed-increasing mechanism and automatic action, whereby when the log is reduced to the size of two inches the carriage is automatically released and swings back to place without being touched by the operator, while at the same time the log stops revolving without interfering with the other part of the machine. When the log is finished it is revolving six times as fast



COCHRAN AUTOMATIC WOOD-FIBER MACHINE.

tracks without disturbing the existing bridges or traffic.

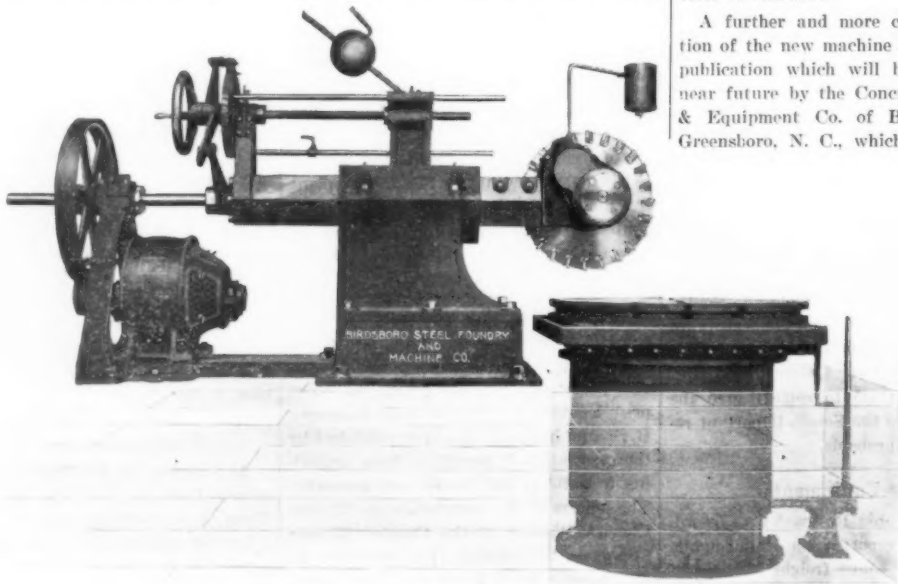
The Scherzer Rolling Lift Bridge Co., 1616 Monadnock Building, Chicago, is the builder of these bridges.

Cochran Automatic Wood-Fiber Machine.

Activity in the production of wood-fiber plaster and other kindred materials which

as at the start, and all is done automatically and continuously. The power is transmitted with bevel gears adjusted to run with the nicety of a watch, and as there are no sprocket wheels or chains, no cone pulleys or cogwheels to break, become out of order or cause other difficulties, the design of the entire machine ensures avoidances of trouble and lost time that are often met with in other less perfect devices of this kind.

A further and more complete description of the new machine will appear in a publication which will be issued in the near future by the Concrete Engineering & Equipment Co. of Butler, Pa., and Greensboro, N. C., which company is to



SPECIMEN ILLUSTRATION—DRAWN IN PERSPECTIVE FROM SHOP DRAWINGS AND HALF-TONE ENGRAVED BY GATCHEL & MANNING OF PHILADELPHIA.

(The firm named makes a specialty of high-grade illustration work.)

the Hutchinson river, New York, replacing four-track swing bridges. A double-track Scherzer bridge has been placed into service recently for the Southeastern & Chatham Railway Co., England, across the Swale river, England, and another is nearing completion across the Suir river, Ireland, for the Fishguard & Rosslare Railways. A three-track Scherzer bridge is under construction for the Dutch State Railways, Holland, and a double-track Scherzer bridge is under construction for

require that wood fiber be reduced for use in the processes of manufacture makes it of timely interest to many to be advised that there has been patented and will be introduced a new and improved machine for reducing wood fiber. It is seen illustrated herewith. The machine is the invention of W. E. Cochran of Butler, Pa. It is high grade in both workmanship and material, and has special features that will appeal to discriminating buyers who need such apparatus in their field of ac-

build and market the equipments. Inquiries are invited from present or prospective users of machinery for reducing wood fiber.

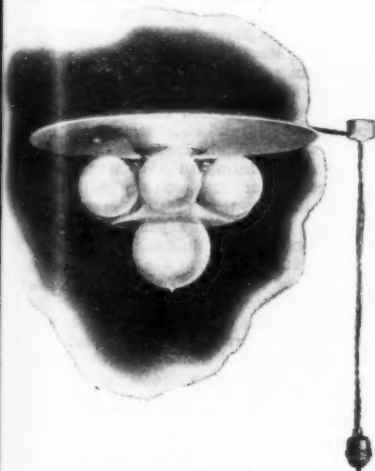
The Benjamin Arc-Burst.

One of the most attractive of modern electrical devices for illuminating purposes is the Benjamin wireless cluster, one form of which is called the Arc-Burst. This consists of a practical grouping of the highest efficiency meridian-type lamps

with Benjamin wireless clusters made effective by reflectors so arranged as to radiate perfectly all available light.

Each Arc-Burst contains one 50-candle-power lamp in the bottom opening, which, with its accompanying diffusing reflector, increases the cluster value both as regards appearance and actual distribution of light.

The Arc-Burst can be furnished with a "turn-down" feature, by means of which the outer and inner lamps may be operated independent of each other.



THE BENJAMIN ARC-BURST.

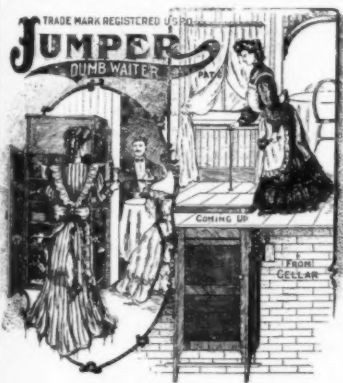
Special shade holders employed in the Arc-Burst permit the removal of reflectors without disturbing any of the electrical connections.

An accompanying illustration shows the ceiling form of the new style. This type (style C) measures 18 inches in diameter, is 11 inches deep, and is essentially a low-ceiling cluster, particularly adapted to places where it is not desirable to use a stem.

The fixture, suspension and weather-proof forms—the latter for outdoor use—are other types of this electrical device. The manufacturer is the Benjamin Electric Manufacturing Co. of Chicago, also of New York and San Francisco.

The Jumper Dumbwaiter.

The attention of those interested in modern dumbwaiters, whether as dealers or house owners, will be attracted by the accompanying illustration of the Jumper



THE JUMPER DUMBWAITER.

Dumbwaiter. While this dumbwaiter is not new on the market, yet it has been improved recently and the trade-mark has been registered.

One peculiar feature of this waiter is that it takes up absolutely no room above the floor when not in use, and can therefore be used in any kitchen or dining-room, and is especially valuable where space is at a premium and an extra closet is needed. The top is level with the floor, forming part of it, and you can walk over it. When wanted for use simply take the small detachable rod (sent with the waiter) and press a small lever, upon which the car immediately ascends. The

car or cage, made in two sizes, has eight shelves, every other shelf being removable, giving double space between if so desired. The back and both sides are made of hardwood, while the front is made up of two cabinet doors, covered with a metallic-coated wire, which does not readily rust in a damp cellar and at the same time giving perfect ventilation. The only expense in installing a waiter of this kind is for the waiter itself, as the services of a carpenter are required for a few hours only to cut a hole in the floor and hang the Jumper in. This equipment is said to be inexpensive, strong and durable enough to last a lifetime. Its manufacturer is J. G. Speidel of Reading, Pa., to whom application can be made for further information.

A Modern Hot-Air Engine.

By G. EMIL HESSE.

The steam engine has done a noble work for more than 100 years, but it has been a very wasteful servant, and would never have been tolerated if it had not been so trustworthy and reliable.

Consider for one moment the fact that this servant of ours only gives us \$14 worth of work for every \$100 worth of coal expended, and this only under the most favorable circumstances!

It is now well known that one elastic medium is just as good as another for the conversion of heat into power, but this was not generally known when Ericsson in the early fifties proposed the use of air as a transmitter.

This proposition was not seriously considered by either scientific men or engineers, and received little or no support. The first hot-air engine was nevertheless built, in spite of all obstructions, and now a revulsion of feelings set in.

Great hopes were entertained as to the future of the calorific engine. Its application to every branch hitherto occupied by the steam engine was predicted. Engines immense in size and weight, but insignificant in power, were constructed, and it was conclusively proved that the Ericsson engine could not be used with advantage above one horse-power.

It was at about this time that Lenoir proposed another method of heating the

have improved on the Ericsson type, which goes to prove that inventors as well as engineers are liable to follow in the footsteps of the pioneer.

"Give me a fixed point outside the earth and a lever long enough, and I will move the universe," said Archimedes more than 2000 years ago.

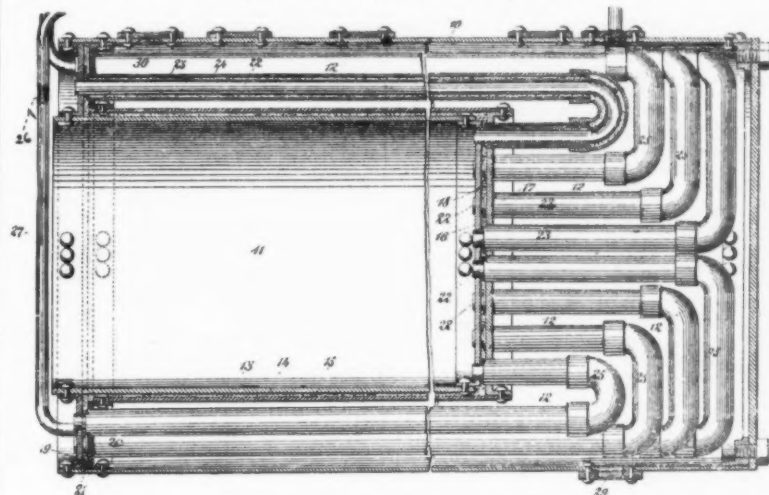
"Show me a rapid way of heating the air, and I will build external-combustion hot-air engines up to 6000 horse-power or more." This has now been discovered, and that important condition is utilized in the Svea Caloric Engine.

It is well known that air is the poorest conductor for heat known, although at

The air pump is supplied with ordinary poppet valves, as shown on the drawing.

The working of the engine is as follows: Air drawn from the atmosphere is pumped into the heater at 30, which forces the air in a well-divided state over the heated tubes. It is drawn out at 29, thoroughly heated, and enters the power cylinders, where it does the work before it is exhausted into the atmosphere.

Large engines, from 100 horse-power and upward, use air under a pressure of 100 pounds per square inch, alternately heated and cooled. This is done for the purpose of decreasing the size of the cylinder and other parts.



A MODERN HOT-AIR ENGINE.

times I feel like disputing this point when I consider the difficulty of heating water from the surface.

The heated gases generated in the furnace on their way through the boiler tubes give off their heat to the surrounding water in a rapid and very satisfactory manner. It is this system, reversed, which is employed in the Svea engine.

The air is forced over the heated tubes at a velocity which corresponds with the speed of the engine itself and the resultant consumption of heated air.

This is the crux of the whole thing; the rest is a mere matter of details, difficult ones some of them no doubt, but the found-

The ideal power is a steady pressure behind the piston, as in the steam engine. The external-combustion engine, both of the Ericsson and the Svea type, has the same advantage, and if to this is added the further advantages that the Svea engine is self-starting, double-acting and reversible, like a steam engine; that the heat radiating surface of cylinder and heater is practically the same as in a steam engine of the same power, and that the heat generated in the furnace is utilized in the same economical manner as in a steam boiler, then it becomes evident that the Svea engine operates under the same favorable conditions as the steam engine in every particular.

Air at 100° C. is in the same condition as steam of the same temperature and ready to be superheated. We will suppose, as an example, that both water and air has an initial temperature of 10° C.

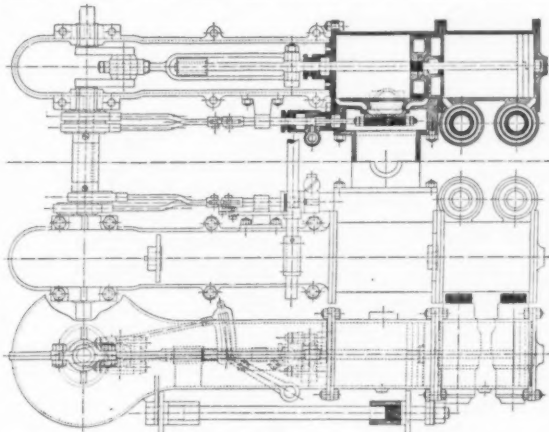
The amount of heat required to raise 1 kg. of water to 100° C. is 90 thermal units; heat required to convert the water into steam of 100° C. is 537 units, and the total = 90 + 537 = 627 thermal units. The amount of heat required to raise 1 kg. of air to 100° C. is $0.24 \times 90 = 21.6$ thermal units. Some heat is recovered if the steam is condensed and the feed water heated, but it is clear that the costly preparation which steam must have before it gets on the same basis as air is so great as to altogether exclude it as a competitor, provided that the air can be readily heated.

The theoretical efficiency of the Svea engine, taking the air at 430° C. and exhausting it at 40° C. is:

$$1 - \frac{273 + 40}{273 + 430} = 0.56 = 56\%.$$

This efficiency will not be reached, but a careful attention to all details will bring it very near to that point.

The external-combustion engine, in which so much hope was centered at first, and which was afterward totally neglected when the possibilities of the internal-combustion engine were recognized, is again in the field ready to fight for the recognition which it is bound to get as soon as its merits become generally known.



A MODERN HOT-AIR ENGINE.

air, which consists in exploding a mixture of air and gas in the cylinder itself.

This system of rapidly heating the air proved to be founded on a good foundation, and it is now possible to build internal-combustion hot-air engines up to 6000 horse-power without undue expenditure of metal.

The method of heating the air employed by Ericsson consisted in allowing the hottest air nearest to the heated plates to rise into the cooler stationary layers above. That this is an exceedingly slow process is evident, even to a casual observer, but this plan has hitherto been scrupulously adhered to by those who

lation is solid rock, and on it will be built a structure that will altogether supersede the old steam building, imposing and immovable though it appears.

The Svea Caloric Engine Co., G. Emil Hesse, president, 39 Cortlandt street, New York, which will market this engine, is now building a six-horse-power hot-air engine and has a 100-horse-power stationary engine under way, with larger sizes to follow.

Two accompanying illustrations show the engine and the heater, the power cylinder and the air pump. The power cylinder has a common sliding valve, which regulates the flow of the heated air.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY.

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

*Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

BALTIMORE BUILDING NOTES.

Business Buildings.

Baltimore—Apartment-house.—John J. & Charles W. Hurst, Calvert Building, Fayette and St. Paul streets, have purchased lot at corner Cathedral and Chase streets and will erect six-story apartment-house on the site, which is 29x139 feet.

Baltimore—Warehouse.—E. B. Hunting, 213 Courtland street, has purchased lot at 614 East Lombard street and will erect warehouse on the site, which is 29x72 feet.

Baltimore—Dwellings.—The Monumental Realty Co. has awarded contract to James J. O'Connor, 5 North Lloyd street, for the construction of 10 two-story dwellings at 2905 to 2923 East Monument street to cost about \$14,000; Silvio Tosi, architect, 419 North Gilmor street.

Baltimore—Dwellings.—Thomas J. Grogan, 2509 East Preston street; Lawrence V. Grogan and Patrick J. Grogan, 2709 East Preston street, as trustees for the Grogan estate, will erect a number of dwellings on the property of the estate. The lots cover 19 city blocks, on which 1700 houses can be erected.

Baltimore—Amusement Park.—Referring to improvements to be made for Michael Fitzsimmons, 104-110 West Barre street, at River-view Park, the following contractors are estimating on the work: Richmond H. Ford & Co., Equitable Building, Calvert and Fayette streets; Henry S. Rippel, 7 Clay street, and John A. Sheridan Company, 321 North Holliday street. The plans provide for entrance arch 18x108 feet, with tin roof; music pavilion 54x60 feet, exedrae, portico 34x170 feet, with tin roof, and improvements to lake. The work will be constructed of wood with stucco trimmings; electrical work not in contract; bids to be in December 13; Simonson & Pietsch, architects, American Building, Baltimore and South streets.

Baltimore—Dwellings.—Joseph Schamberger, builder, 2122 East Baltimore street, will erect 12 two-story dwellings at 2 to 24 South Curley street, to cost about \$10,000.

Baltimore—Florists' Exchange.—The Florists' Exchange, J. H. Rider, president, 505 North Eutaw street, has purchased lot at southwest corner St. Paul and Franklin streets and will erect building on the site for its own use.

Baltimore—Suburban Development.—The Roland Park Co., Roland Park, has purchased two-thirds interest in 72 acres of land adjoining Roland Park and will develop it for residential purposes.

Baltimore—Dwellings.—Charles B. Burdette, 1812 West Lexington street, will erect 24 two-story dwellings on 27th street near Maryland avenue.

Baltimore—Dwellings.—Joseph L. White, builder, 2306 Foster avenue, will erect about 40 two-story dwellings on East Baltimore street near Potomac street.

Baltimore—School.—The Sisters of Charity in charge of St. Joseph's School of Industry, Carey and Lexington streets, have purchased lot at Charles and 28th streets and will erect modern school building on the site. Sister Josepha is head of the school.

Baltimore—Dwellings.—Charles E. Savage, Central Savings Bank Building, 3 East Lexington street, has purchased lot at northwest corner Presbury street and Slingluff avenue and will erect a number of dwellings on the site, which is 290x334 feet.

Baltimore—Store Building.—Referring to store building to be erected at 22 West Baltimore street by the Central Realty Co. (J. Q. H. Smith, Jr., Galtier Estate Building, 111 North Charles street), the following contractors are estimating on the construction: Morrow Bros., 212 Clay street; Henry Smith & Sons Company, 116 South Regester street; J. H. Miller, 110 Dover street; Henry S. Rippel, 7 Clay street; George Bunbeck & Sons, 305 St. Paul street; Charles Gilpin, Union Trust Building, Charles and Fayette streets; Charles M. Little, 1212 Myrtle avenue, and Stanfield & Harn, 109 Clay street; three stories with basement, 23x155 feet; brick with limestone trimmings; steel-frame construction fireproofed with concrete; slag roof; electric wiring and fixtures; sanitary plumbing; bids to be in December 18; Joseph Evans Sperry, architect, Calvert Building, Fayette and St. Paul streets.

Baltimore—Dwelling.—Wesley W. Willoughby, 113 Woodlawn road, Roland Park, has awarded contract to John Cowan, 106 West Madison street, for the construction of 2½-story dwelling at Roland Park (a suburb of Baltimore); Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street.

Baltimore—Club Building.—The Baltimore Country Club, Roland Park (a suburb of Baltimore), is considering the construction of an additional club building to be devoted to bowling, billiards, etc. Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street, have prepared tentative sketches for the building, which will be three stories in height and 50x100 feet. The cost will be about \$20,000.

Baltimore—Retail Market and Night School. The municipal Board of Awards, City Hall, has awarded contract to the Charles McCaul Company, 224 North Liberty street, Baltimore, Md., and 10 North 11th street, Philadelphia, Pa., for the construction of superstructure for retail market and night school on Centre Market Space at its bid of \$173,470; three stories, 156x171 feet; brick with terra-cotta trimmings; steel-frame construction fireproofed with concrete; terra-cotta partitions; reinforced-concrete stairs, toilets and corridors; slag roof; interior marble; electric wiring and fixtures; sanitary plumbing; heating system; Simonson & Pietsch, architects, American Building, Baltimore and South streets. The Cranford Paying Co., Washington, D. C., was awarded the contract for the construction of the foundations for the above building at its bid of \$16,700.

Baltimore—Dwellings.—Mottu & White, architects, 328 North Charles street, have completed plans for the construction of frame dwelling on Edmondson avenue extended for J. Guild Cook; two and one-half stories, 35x41 feet; cost about \$5000. John Cowan, 106 West Madison street; A. K. Boteler, 1305 Shields alley; Ignatius Smith, 1719 Liberty road, and Robert E. Nagle are estimating on the construction.

Manufacturing Buildings and Other Enterprises.

Baltimore—Real Estate.—The Cheswoide Land Co. has been incorporated with an authorized capital stock of \$35,000 to deal in

real estate by James S. Calwell, 215 St. Paul street; J. Henry Judik, 2802 Pennsylvania avenue; George J. Thaler, Edward J. Kennard and Harry E. Mann.

Baltimore—Real Estate.—The City & Suburban Realty Co. has been incorporated with an authorized capital stock of \$5000 to deal in real estate by Wm. C. Conwell, Calvert Building, Fayette and St. Paul streets; James L. D. Kearney, Roland R. Marchant, Calvert Building; Allen Thomas and Guy Respass.

Baltimore—Furniture-polish Factory.—The Japan Polish Co. has been incorporated with an authorized capital stock of \$1000 to manufacture furniture polish by Louis Morris, P. August Grill, Bernard M. Kaufman, 17 East Centre street; Aaron Straus and Augustus C. Binswanger, 806 East Fayette street.

Baltimore—Real Estate.—The Local Realty Co. has been incorporated with an authorized capital stock of \$20,000 to deal in real estate by Charles H. Baltzell, 504 West Barre street; Charles A. Baltzell, Richard G. Hobbs, 2137 West Lexington street; Pamela B. Wright and Mark W. Wright, 106 East Saratoga street.

Baltimore—Tobacco Company.—The Neudecker & Anderson Tobacco Co. has been incorporated with an authorized capital stock of \$3000 by John A. Neudecker, Edward L. Anderson, Winston-Salem, N. C.; David Ash, 129 North Liberty street, Baltimore, Md., and Simon Bransky, 431 South Pulaski street, Baltimore, Md.

Baltimore—Factory Building.—The board of directors of St. Mary's Industrial School, Cardinal Gibbons, president, has commissioned Torniey & Leach, architects, 323 North Charles street, to prepare plans and specifications for factory building to be erected on the grounds of the school on Wilkens avenue; 3½ stories; 60x100 feet; stone exterior.

Baltimore—Buckle Factory.—The Marvel Buckle Co. has been incorporated with an authorized capital stock of \$180,000 to manufacture buckles by Mieczyslaw Barabasz, 1634 Eastern avenue; Jan Gulcz and Gabriel Kraus.

Subbids Wanted.

Mention of contractors wanting subbids on construction work and material will be found, when published, in the "Machinery Wanted" column on another page under the heading of "Building Equipment and Supplies."

ALABAMA.

Anniston—Water-power-Electrical Plant.—Coosa River Power Co. has been incorporated with \$100,000 capital stock by Roswell H. Cobb of Anniston, Robert R. Zell, Robert D. Johnson and Henry K. White of Birmingham, Ala., to develop the water-power of the Coosa river, constructing dam and building power-house for its transmission by electricity to Anniston, Attalla, Alabama City, Pell City and Riverside for light and power purposes. Robert R. Zell was mentioned in October as to organize company for this purpose, and the Ambursen Hydraulic Construction Co. of Boston, Mass., was reported as having made preliminary surveys for a steel concrete dam and to be the hydraulic engineer in charge of the work.

Birmingham—Vinegar Factory.—O. L. Gregory Vinegar Co. has increased capital stock from \$10,000 to \$27,000.

Birmingham—Gas Tanks and Fixtures.—It is reported that Wm. K. West and M. J. Casey, representing the Northwestern Construction Co. of Chicago, Ill., are investigating with a view to locating plant for the manufacture of gas tanks and fixtures.

Calera—Cotton Gin and Grist Mill.—It is reported that a site has been purchased on which to erect a cotton gin and grist mill, and the Calera Land Co. can give information.

Calera—Woodworking Plant.—It is reported that the Calera Land Co. has about completed arrangements for the location of a woodworking plant.

Dothan—Lumber Company.—Flowers Lumber Co. has been incorporated with \$5000 capital stock by W. R. Flowers, J. J. Flowers and J. Henry Flowers.

Dothan—Gas Plant.—The town favors the granting of a franchise to private capitalists for the construction of a gas plant, about two miles of mains to be required. It is now inviting propositions for the franchise. R. W. Lisenby, town clerk, can be addressed.*

Enterprise—Electric light and Power Plant. J. P. Rouels, M. E. Rouels and O. C. Doster, Jr., have incorporated the Enterprise Power

& Light Co. with \$20,000 capital stock to operate electric-light and power plant.

Gadsden—Planing Mill.—The Kyle Lumber Co., mentioned last week as building planing mill, is erecting building 125x150 feet, which will be equipped for a daily capacity of 50,000 feet of yellow-pine lumber. Machinery has been purchased.

Gadsden—Steel Mill and Furnace, Rod Mill, Finishing Plant, etc.—The Southern Steel Co., reported incorporated during the week with capital stock of \$16,000,000, plans extensive improvements and additions to the plants of the Alabama Steel & Wire Co. and the Underwood Coal Co., which it acquires. The Alabama Iron Co., owner of iron mines, is also acquired. President E. T. Schuler has telegraphed the Manufacturers' Record that the company will build an addition to the present open-hearth steel plant (doubling its capacity), a modern rod mill and another finishing plant to absorb the entire output of the enlarged steel plant. It is further reported at Gadsden that the new rod mill will have a daily capacity of 500 tons, and that from \$2,000,000 to \$3,000,000 will be expended for that plant and the other additions above referred to, for 1000 workmen's cottages, industrial land improvements, etc. It is understood that the construction work involved will be planned at once and proceeded with as soon as possible. Other plans involving new industries not yet ready for announcement are also said to be under consideration. The Southern Steel Co.'s vice-president is George H. Schuler of Birmingham; secretary, R. D. Carver of Birmingham. Its directors are the Messrs. Schuler (mentioned above), Harrison B. Schuler of Chicago, Ill.; John Brindley of Pittsburg, Pa.; Courtland Van Camp of Indianapolis, Ind.; Moses Taylor and Robert Van Cortlandt of New York. Messrs. Taylor and Van Cortlandt are members of Messrs. Kean, Van Cortlandt & Co., 26 Nassau street, New York city, and are said to have arranged to finance the new corporation. The Garrett-Cromwell Engineering Co. of Cleveland, Ohio, will have charge of the company's engineering work.

Gadsden—Railroad Repair Shops.—Alabama Great Southern Railroad, it is reported, will build additions to car shops. J. R. Murray, Trussville, Ala., is superintendent bridges and buildings.

Jacksonville—Cotton Mill.—Ide Cotton Mills will install 6000 additional spindles, involving an expenditure of probably \$70,000; present equipment 6000 spindles.

Jasper—Ice Plant, etc.—Jasper Ice & Fuel Co. has been organized by J. H. Cranford, J. H. Blankhead, Jr., J. M. Cranford, D. K. Carter and others to manufacture ice and deal in fuel. The plant of the West Alabama Ice Co. has been purchased and will be improved and operated.

Mobile—Bridge.—Rudolph Benz & Sons, Masonic Building, have completed plans for steel and wood bridge 500 feet long and 20 feet wide spanning the Dog river.

Mobile—Electric-plant Improvements.—Hughes & Wilcox (manufacturers of suwed veneers) are arranging for doubling the capacity of their electric-power plant of 40 horse-power; office, City Bank & Trust Co. Building.*

Mobile—Gas and Electric-light-plant Improvements.—Electric Lighting Co., Santos S. Rubira, president, will extend gaspiping system at the several terminal points, eight miles in all. It is also proposed to install in addition to present electric-light plant a turbine or steam-engine system of capacity sufficient to generate 1500-kilowatt electric illumination.*

Montgomery—Street-paving.—Bids for paving various sidewalks, previously mentioned, will be received until December 18; R. S. Williams, city treasurer.*

Montgomery—Bottling Works.—L. Davis, G. M. Wagenusler and Charles Davis have incorporated the Eagle Bottling Co. with \$12,000 capital stock.

Oakman—Water-works.—Town is arranging for the construction of reservoir or tank, pipe the town and install fire plugs. M. O. Travis is chairman of committee.

Phil Campbell—Saw-mill.—The Louisiana-Alabama Coal Co. (main office, New Orleans, La.), previously mentioned in this department as to develop coal lands in Franklin county, will arrange at once for the erection of saw-mill to cut the timber on the tract, a portion of which will be used in the construction of operatives' houses, tipples, trestle, etc. S. B. McConico is president.

Russellville—Iron Mines.—It is reported that the Louisiana-Alabama Coal Co., S. B. McConico, president, is investigating iron deposits near Russellville, and if the prospecting proves favorable will probably arrange for its development; main office, New Orleans, La.

Samson—Woodworking Plant.—Samson Manufacturing Co., reported incorporated last week, will manufacture flooring, ceiling, siding, general planing-mill material, etc. A building 50x300 feet will be erected. About \$10,000 will be invested. J. B. Davis of Hecoda, Ala., is president; W. B. Sellers of Pecca, Ala., vice-president; J. J. Morris, secretary-treasurer, and C. L. Gaulding, manager (both of Samson, Ala.).

Tuscaloosa—Drug Company.—Neal Drug Co. has been incorporated with \$10,000 capital stock to take over the drug business of the Star Drug Co.; George B. Neal, president, and Dr. Wm. T. Coggin, secretary-treasurer.

ARKANSAS.

Forrest City—Cotton Compress.—Reports state that Columbus Bierce of New Orleans, La., will build a cotton compress.

Fort Smith—Woodworking Plant.—United States Casquet & Novelty Co. has been incorporated with \$100,000 capital stock to manufacture portable houses, caskets, etc. Wm. Moore is president; F. S. Fisher, vice-president, and Arthur Jones, secretary.

Fort Smith—Viaduct.—The Board of Public Works has let contract to the Texas Bridge Co., Dallas, Texas, for the construction of steel viaduct 1342 feet long over the railroad tracks.

Fort Smith—Smelters.—The Arizona Independent Vacuum Smelting Co. has been incorporated with \$150,000 capital stock by John R. Boddie, F. L. McGahan, M. E. Chamberlain, R. C. Bollinger, W. B. Page, J. M. Langston, Jr., Joe Alexander and others to establish plant equipped with vacuum smelters.

Pine Bluff—Street-paving.—City is reported as arranging for paving West 4th street with macadam at a cost of \$40,000; John P. Harter, city engineer.

Pocahontas—Electric-light and Ice Plant.—Ruebel & Wells, Chemical Building, St. Louis, Mo., are engineers in charge of construction of proposed electric-light and 10-ton ice plant, to consist of two 25-horse-power boilers and one 75-kilowatt single-phase alternator. Contract will be awarded at once. S. C. Dowell of Walnut Ridge, Ark., was mentioned last week in connection with the enterprise.

Texarkana—Sewerage System.—Arrangements are being completed for the construction of a system of pipe sewers in Improvement District No. 5, and bids for the work will be received until January 15 by the Board of Improvements.

Van Buren—Gas Plant.—Less Creek Gas, Oil & Coal Co. has applied for franchise to supply the city with natural gas for fuel and illuminating purposes.

Van Buren—Sewerage System.—James M. Clark, Nevada, Mo., is engineer in charge of construction of sewerage system, previously mentioned; estimated cost \$13,000.

Whelen Springs—Saw-mill.—Missouri Mill Co. has been incorporated with \$30,000 capital stock to operate saw-mill. P. J. Lovett is president; Lemuel Sparkman, vice-president, and Z. D. Sparkman, secretary-treasurer.

DISTRICT OF COLUMBIA.

Washington—Heating and Refrigerating Plant.—F. L. Shober, Jr., George Truesdell, George W. Young, Byron T. W. Duke, Jr., H. W. Fuller and George H. Harries have applied for a charter for the Economic Heating & Refrigerating Co. with \$4,000,000 capital stock to operate heating and refrigerating plant, constructing conduits and laying pipes in the street for furnishing same.

FLORIDA.

Comer—Cotton Mill and Water-power-Electric Plant.—Mallison Braided Cord Co. of Athens, Ga., will make immediate arrangements to build the cotton mill referred to last week. It has purchased land and water-power which will be developed to furnish 500 horse-power and be transmitted by electricity for the mill. The latter will have an equipment of 5000 spindles. Water-wheels for 40-foot fall, 400-kilowatt generator, electric motors, etc., will be installed. No contracts have been awarded for machinery. L. F. Edwards, president of Mallison Braided Cord Co., Athens, Ga., should be addressed.

Grove Park—Saw-mill.—It is reported that William Lynch will erect saw-mill and equip for a capacity of 12,000 feet of lumber, replacing plant recently burned.

Jacksonville—Electric-light Plant.—The Board of Bond Trustees has authorized the

installation of additional boiler of 300 horsepower at electric-light plant, for which bids will be received until January 4.

Jacksonville—Public Improvements.—The city will issue \$400,000 of bonds for public improvements. Address The Mayor.

Jacksonville—Naval Stores.—The Naval Stores Export Co. has increased capital stock to \$2,000,000.

Live Oak—Water-works.—City has voted affirmatively the \$75,000 bond issue previously reported for water-works; M. E. Broome, mayor.

Live Oak—Road Building.—Hugger Bros., Montgomery, Ala., have been awarded contract at \$119,000 for building 40 miles of rock road in Suwanee county.

Ocala—Phosphate Mines.—Ischatta Phosphate Co. has been incorporated with \$35,000 capital stock to mine phosphate; incorporators, O. T. Green of Ocala, Colin C. Wyllie, Jr., of London, England, and Emile Van Espen of Paris, France, with Mr. Wyllie as president, secretary and treasurer, and Mr. Van Espen as vice-president and general manager.

Plant City—Sand-lime Brick.—The Plant City Granite Brick Co. will begin the manufacture of sand-lime brick about January 1.

Stillmore—Fertilizer Mixer.—Stillmore Chemical Co. will erect building 125x50 feet for fertilizer mixer, previously mentioned. J. J. Sutton is engineer in charge.

St. Petersburg—Turpentine Lands.—C. H. Lee of St. Petersburg, M. W. Ulmer of Largo, Fla., and S. A. Rawles of Ocala, Fla., have purchased 10,066 acres of turpentine land in Hillsboro county at \$36,000, which will be developed, operating as Ulmer, Rawles & Co. It is stated that 2000 acres of the tract have been cut for turpentine purposes.

Valdosta—Fertilizer Factory.—The South Atlantic Fertilizer Co. has been organized to take over, enlarge and operate the plant of Lane, Tillman & Co. John Lane will be manager.

GEORGIA.

Atlanta—Telephone Systems.—Southern Bell Telephone & Telegraph Co. will increase its capital stock from \$1,000,000 to \$30,000,000, but less than one-half of this amount will be issued at present. This additional capital will pay for the improvements and extensions the company has made in Southern cities and country sections during the last few years and for similar betterments to be undertaken during the next few years as indicated by the needs of different communities. Various extensions are being constructed and new buildings for exchanges are being erected in different cities, references to which have been made from time to time by the Manufacturers' Record. The Southern Company covers territory in Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida and Alabama, operating thousands of miles of lines and hundreds of exchanges in the leading cities.

Atlanta—Machinery Company.—Dunn Machinery Co. has been incorporated with \$35,000 capital stock to deal in machinery, etc. W. J. Dunn is president and general manager; A. L. Dunn, vice-president and treasurer, and John G. Clements, engineer in charge; office, 54 Marietta street.

Atlanta—Refrigerator Factory.—Chartered: Atlanta Refrigerator Manufacturing Co., with \$50,000 capital stock.

Augusta—Electric-light Plant.—It is proposed to appoint a committee to consider the cost, etc., of installing electric-light plant; R. E. Allen, mayor.

Camilla—Cotton Gin.—Camilla Ginning Co. has been incorporated with \$6000 capital stock by J. W. Butler, F. S. Perry, F. L. Lewis and T. R. Bennett to operate cotton gin and warehouse.

Camilla—Planing Mills, etc.—A. R. Patrick, T. E. Walton, F. L. Lewis and T. R. Bennett have incorporated the Camilla Manufacturing Co. with \$6000 capital stock and privilege of increasing to operate planing mills and lumber yards. Machinery has been purchased.

Camilla—Steam Laundry and Ice Plant.—Camilla Laundry & Ice Co. has been incorporated with \$3000 capital stock to erect and operate steam laundry and purchase local ice plant, doubling the present output; incorporators, F. L. Lewis, G. L. Wade, T. R. Bennett and others.

Douglas—Sewerage System.—City has engaged C. C. Anderson, C. E. Macon, Ga., to install proposed sewerage system.

Etowah—Light and Power Plant.—The Etowah Light & Power Co. has been incorporated with \$50,000 capital stock to furnish heat, light and power; incorporators, W. N. Kitchen and H. H. Garner of Atlanta, Ga., and J. E. Thomas of New York, N. Y.

Macon—Spool and Bobbin Factory.—A. C. Felton, Jr., has organized company for the manufacture of spools and bobbins for cotton factories. The plant of the Georgia Spool & Bobbin Co. has been secured and will be equipped for tripling the present capacity.

Macon—Mattress Factory.—R. H. Fletcher, B. Z. Holmes, E. Z. Pharr, R. O. Pharr and others have incorporated the Central City Mattress Co. with \$10,000 capital stock to manufacture mattresses, etc.

Savannah—Packing Plant and Warehouse.—Swift & Co. (main office, Chicago, Ill.) has had plans prepared for the erection of modern packing plant and warehouse; building to be two stories and contain smokehouses and refrigerating plant; J. T. Taylor, local manager.

Savannah—Land Development.—Chartered: Georgia Development Co., with \$500,000 capital stock, by Charles H. Allen and Henry L. Smith of Savannah, Lee F. Lybarger of Midland, Pa., and Augustus Klein of Warren, N. C., to deal in, develop and manage timber, mineral and agricultural lands, etc.

Thomaston—Dairy.—Incorporated: Pinecrest Dairy, with \$3000 capital stock and privilege of increasing to \$10,000, by J. W. Hightower, Mrs. M. E. Hightower and others.

KENTUCKY.

Anchorage—Land Improvement.—I. W. Bernheim of Louisville has purchased 40 acres of land which will be divided into building lots.

Bowling Green—Bridge.—The erection of a bridge at Spencer Creek ford is reported as being considered by Pike and Ralls counties. Address County Clerk.

Louisville—Heating and Power Plant.—It is reported that the Louisville & Nashville Railway will install a central heating and power plant in office building; cost \$150,000; W. H. Courtenay, chief engineer.

Louisville—Abattoir.—Louisville Abattoir Co. has been organized with \$40,000 capital stock by Fred E. Hoerter to erect abattoir. An ice plant will also be included.

Louisville—Ice Factory.—Henry Benner, Henry Hollman and Theodore Deddens have incorporated the Southwestern Ice Manufacturing Co. with \$30,000 capital stock.

Marion—Zinc-ore Mill.—The ore mill being erected for Sanders Bros. by W. E. McGraw (mentioned last week) will be of frame construction on concrete foundation and have 17,000 square feet of floor space. Machinery has been purchased. Power-house and storage buildings will be erected later.

Paducah—Saw-mill.—Langstaff-Orm Manufacturing Co., mentioned last week as having let contract for rebuilding saw-mill (recently burned) after plans by A. L. Lassater, will erect frame building 50x300 feet, equipped for a capacity of 125,000 feet of lumber. Machinery has been purchased.

Smithland—Water-works.—Harry Eberman of Morgantown, Ky., previously mentioned as making surveys preparatory to installing water-works system, will organize the Eberman Water Co. to operate plant.

Tyrone—Distillery.—Incorporated: Ripby Bros. Distilling Co., with \$25,000 capital stock, by E. F. Ripby, J. C. Ripby and Forest Ripby, all of Lawrenceburg, Ky., to erect distillery.

LOUISIANA.

Centerville—Ice and Cold-storage Plant.—Centerville Ice Factory, reported organized last week to build and operate ice and cold-storage plant, will erect building, 70x51 feet, of frame covered with corrugated iron, and will be equipped for a daily capacity of 10 tons.

Lockport—Canning and Ice Factory.—La-fourche Packing & Ice Co. has been organized with \$125,000 capital stock to operate fish and vegetable cannery and ice factory. About \$12,000 will be expended in the erection and equipment of cannery factory and \$35,000 in ice plant.

Minden—Water-works Improvements.—It is reported that arrangements are being made for equipping water-works with meters; Robert Roberts, mayor.

New Orleans—Unloading Plant.—It is reported that the United Fruit Co. has let contract for building three fruit-unloading plants at Port Chalmette.

Taft—Saw-mill.—Cummings-Moberly Cypress Co., mentioned last week under Hahnville, La., as to establish saw-mill for cutting cypress lumber, will operate plant with a daily capacity of 50,000 feet. Machinery has been purchased.

New Orleans—Bag Factory.—The Delta Bag Co., 430 Fulton street, is having plans prepared for the erection of building.

New Orleans—Channel.—Bowers Southern

Dredging Co., Galveston, Texas, mentioned recently as lowest bidder at \$9.20 per lineal foot for revetment and eight cents per cubic yard for dredging channel through Sabine lake, connecting Sabine river with the Neches river, has been awarded contract.

New Orleans—Stationery.—Incorporated: Perry & Buckley Company, with \$20,000 capital stock, by F. E. Perry, Anthony Vizard, Jr., and Joseph P. Buckley, to manufacture and deal in stationery, blank books, office supplies, etc.

New Orleans—Fiber Company.—Chartered: The Louisiana Fiber Co., with \$100,000 capital stock. A. W. Lawrence is president.

Whitecastle—Cooperage Plant.—Whitecastle Cooperage Co., Ltd., has been incorporated with \$100,000 capital stock by A. C. Johns of Whitecastle, R. H. Downman of New Orleans, La., and associates to erect and operate cooperage plant.

MARYLAND.

Cumberland—Cereal Company.—Maryland Cereal Co. has been incorporated with \$10,000 capital stock by E. L. Shearer of Cumberland, Robert R. Parker, Daniel D. Parker of Rawlings, Ashford D. Reese and John W. Reese of Foote, W. Va., to deal in grain, cereals, etc.

Cumberland—Coal-mining.—The George's Creek Fuel Co. has been organized with \$50,000 capital stock to mine coal. Joseph P. McKenna of Cumberland is president; E. C. Moore of New York, N. Y., secretary-treasurer, and Edward P. McKenna of Cumberland, general manager.

Frederick—Shutter Bars.—The National Shutter Bar Co. has been incorporated with \$30,000 capital stock by Augustus H. Ebert, Harry Ebert, T. I. Miller, M. M. Ebert and E. J. Winebrenner, Jr., to manufacture shutter bars.

Hoffmanville—Powder Works, etc.—Rockdale Powder & Dynamite Co. has increased capital stock from \$175,000 to \$400,000. It is stated that extensive improvements will be made to plant, and arrangements will be made for developing its mineral properties.

MISSISSIPPI.

Gulfport—Ice-plant Improvements.—S. L. Jones, president Gulf & Ship Island Railroad, operating 30-ton ice and refrigerating plant, is arranging for the erection of addition to be equipped with a 150-ton machine.

Heidelberg—Drug Company.—M. H. Clayton, F. A. Danzler and others have incorporated the Heidelberg Drug Co. with \$5000 capital stock.

Jackson—Concrete Building Blocks.—Chartered: Bowles & Hemingway, with \$10,000 capital stock, for the manufacture of concrete building blocks.

Jackson—Concrete-block Factory.—Jackson Art Stone Co. has been incorporated with \$10,000 capital stock to manufacture concrete building blocks; F. T. Ort, president.

Laurel—Cotton Mill.—Laurel Cotton Mills will erect additional buildings and install \$500 spindles with the necessary preparatory machinery; present equipment 10,400 ring spindles and 640 looms.

McComb City—Railroad Repair Shops.—It is reported that the Illinois Central Railroad will arrange for improvements at shops. A. S. Baldwin, Chicago, Ill., is chief engineer.

New Albany—Electric-light Plant, Water-works and Street Improvements.—City has voted affirmatively the proposed issuance of \$9000 of bonds for extending electric-light plant and water-works and \$3000 for street improvements; J. O. F. Wilcox, Jackson, Miss., engineer in charge; W. A. Liddell, mayor.

Newton—Saw-mill.—The Newton Industrial League, John A. Webb, secretary, is negotiating with a large lumber syndicate relative to the establishment of a large saw-mill.

Pineola—Realty Company.—Chartered: The Simpson County Realty Co., with \$10,000 capital stock, by J. B. Bishop, W. H. Hardy, Jr., W. M. Durr, R. A. Foote and others.

MISSOURI.

Galena—Zinc Mines.—It is reported that J. R. Mower has leased 40 acres of land near Galena containing zinc ore and will mine zinc. It is proposed to sink three shafts, each to a depth of 250 feet, and build two ore mills.

Joplin—Zinc Mines.—Peter Hawk, James Ulrich, G. W. Hawk and others have incorporated the Live Oak Zinc Co. with \$50,000 capital stock to mine zinc.

Kansas City—Heating and Plumbing Company.—Allison & Hudson Heating & Plumbing Co. has been incorporated with \$10,000 capital stock by W. L. Hudson, D. E. Allison, M. M. Cameron and S. S. Gunlach.

Ozark—Water and Light Plant.—Chartered:

Water-Power Light Co., with \$15,000 capital stock, by S. E. Bronson, J. M. Bronson, J. A. Robertson and J. R. Robertson.

St. Louis—Plumbing Company.—John F. Stuckenberg Plumbing Co. has been incorporated with \$3000 capital stock by John F. Stuckenberg, Anna Stuckenberg and Geo. H. Stuckenberg.

St. Louis—Printing Plant.—The Humanity Printing & Publishing Co. has been incorporated with \$2000 capital stock by G. W. Strickland, C. Rasmussen, A. J. Scott and others to engage in printing and publishing business.

St. Louis—Bridge.—It is reported that the St. Louis, Kansas City & Colorado Railroad has secured permit to build bridges across the Hanley, North and South and Olive street roads; bridge across the Hanley road to be of iron or steel with a vertical clearance of 17 feet 2 inches, the North and South bridge to have a clearance of 15 feet 8 inches and the Olive-street bridge to have a clearance of 15 feet 1 inch. A 24-inch cast-iron pipe culvert will be constructed in place of the present vitrified-brick culvert; W. L. Darling, Chicago, Ill., chief engineer.

St. Louis—Cloak Factory.—Chartered: Singer Bros. Cloak Co., with \$300,000 capital stock, by Adolph Singer, James W. Singer and others, to manufacture and deal in cloaks.

St. Louis—Coal Mines.—H. C. Barnard, W. S. Forman, M. M. Stephens, Randolph Smith, A. B. Daab, all of East St. Louis, Ill., and associates have incorporated the Four C Coal Co. with \$5000 capital stock to mine coal.

St. Louis—Printing Plant.—American Label Works Co. has been incorporated with \$3000 capital stock by Adolph Pohle, Joseph Hauer and William W. Hayward to engage in printing and engraving business.

Webb City—Drug Company.—C. B. Chenoweth, A. E. Mitchell and G. L. Wade have incorporated the Webb City Drug Co. with \$6000 capital stock.

Webb City—Land and Mining Company.—Matthews & Wampler Land & Mining Co. has been incorporated with \$50,000 capital stock by C. E. Matthews, W. W. Wampler and O. N. Wampler.

NORTH CAROLINA.

Asheville—Street-paving.—Warren Bros. Company of Boston, Mass., is reported, has contract for 5000 square yards of bituminous pavement on Grove and Phillip streets.

Asheville—Talc Mines.—Chartered: Georgia Talc Co., with an authorized capital stock of \$85,000, by J. F. Glenn, S. J. Fisher and Z. V. Johnston.

Brevard—Water-works and Sewerage System.—It is reported that Leroy Ball, Asheville, N. C., has contract for constructing water-works and sewerage system.

Charlotte—Mineral Water.—Mida Mineral Water Co. has been incorporated with \$100,000 capital stock by J. W. Sample, John R. Pharr, W. W. Johnston, R. H. Jordan and Frank B. Sample to bottle and sell the Mida mineral water.

Concord—Cotton Mill.—James W. Cannon is interested in a movement for the erection of a large cotton mill, the location not yet chosen, but Glass and Whitney, N. C., being under consideration. No other details have been considered.

Cornelius—Cotton Mill.—J. B. Cornelius, R. J. Stough, T. A. Stough and associates propose organizing a \$50,000 stock company to build the cotton mill previously referred to. Equipment will probably be 3000 spindles, and yarns will be the product.

Dillsboro—Nickel Mines.—The Consolidated Nickel Co. has been incorporated with an authorized capital stock of \$25,000 by Joseph J. Hooker of Dillsboro, Bradford M. Adams of Waynesville, N. C., and J. L. Broyles of Webster, N. C., to mine nickel, etc.

Garland—Lumber Mill.—A. J. Bogarth will erect lumber mill, 31x84 feet, of frame with corrugated-iron roof.

Gastonia—Cotton Mill.—Oakland Manufacturing Co. will be the title of company recently reported as to be organized by C. B. Armstrong, George A. Gray and others for the erection of a 5000-spindle yarn mill; capital stock \$60,000.

Gray—Gold-mining.—Gray Mining & Development Co. has been incorporated with \$100,000 capital stock by J. H. Gray, R. E. Armfield and F. E. Bradley of Statesville, N. C., to develop the Gray gold mine.

Hendersonville—Furniture Factory.—It is proposed to establish a \$50,000 furniture factory, and S. T. Hodges can give information.

High Point—Upholstering Factory.—Jim W. Kearns and associates will establish upholstering factory to be operated as the Kearns Upholstering Co.

High Point—Oil Wells.—W. N. Egleston and others have incorporated the North Carolina Oil Co. with \$100,000 capital stock to operate oil wells, handle crude and refining petroleum oil, etc.

Jamestown—Concrete-block Factory.—Chartered: Jamestown Concrete Works, with \$125,000 capital stock, by W. C. Rogers of Jamestown, H. C. Pitts and George Penny of High Point, N. C., to manufacture concrete blocks. Site has been purchased and building will be erected at once. Machinery has been ordered.

Lexington—Industrial Development.—Davidson County Development Co., reported incorporated last week with \$10,000 capital stock, has completed organization with B. L. Burkhead, president; J. W. Noel, vice-president, and Wade H. Phillips, secretary-treasurer. The company will promote industrial development, improve lands, etc.

Lumberton—Lumber Company.—Pope Lumber Co. has been incorporated with an authorized capital stock of \$25,000 by Ira L. Pope, Dr. H. T. Pope and J. A. Pope.

Mars Hill—Brick Works and Saw-mill.—The Mars Hill Wood & Clay Working Co., recently incorporated with \$25,000 capital stock to manufacture brick, operate saw-mill, etc., has completed organization with A. F. Sprinkle, president; J. R. Sams, vice-president; H. M. Fagan, secretary and engineer, and John W. Anderson, treasurer. A two-story building, 90x40 feet, will be erected; G. W. Corn, architect.

New London—Cotton Mill.—It is reported the Tucker & Carter Rope Co. will build another cotton-rope mill.

Norwood—Lumber Company.—J. F. Shinn and others have incorporated the Norwood Lumber Co. with \$25,000 capital stock.

Salisbury—Lumber Mill.—A. E. Davis contemplates establishing plant for manufacturing all kinds of dressed lumber.*

SOUTH CAROLINA.

Edgefield—Water-works and Electric-light Plant.—City is considering the installation of water-works and electric-light plant; J. C. Sheppard, chairman committee.

Greenville—Publishing.—Greenville News Co. will increase capital stock from \$15,000 to \$25,000. It is stated that the plant will be enlarged and improved.

Timmonsville—Land Improvement.—Beulah Real Estate Co. has been incorporated with \$10,000 capital stock by John McSweeney, W. H. Keith, W. E. Lea, Duncan McKenzie and others.

TENNESSEE.

Chattanooga—Steel Bridge.—Board of Public Works will receive bids until January 9 for the construction of 11th-street bridge, recently mentioned; to be of steel, single span, 176 feet long; Robert Hooke, city engineer.*

Chattanooga—Cement-block Factory.—Acme Cement Stone Co. has been organized with \$10,000 capital stock for the manufacture of cement hollow stone and other building materials. J. Lee Hale, 819 Georgia avenue, is president and general manager.*

Chattanooga—Land Improvement.—Chartered: East End Avenue Improvement Co., with \$25,000 capital stock, by M. V. Raley, W. B. Garvin, N. I. Mayes, J. H. Cantrell and C. C. Robertson.

Harriman—Stave and Heading Factory.—It is reported that Frank B. Russell & Co. of Louisville, Ky., will remove plant being operated at Spring City, Tenn., manufacturing staves and heading for beer barrels and kegs, to Harriman, enlarging the capacity.

Jackson—Concrete-block Factory.—H. C. Jamerson, S. D. Waddill, W. L. Brown, W. J. Hunt, R. F. Spragins of Jackson and C. H. Ferrell of Humboldt, Tenn., have organized company with \$15,000 capital stock to manufacture concrete blocks for building and paving purposes.

Memphis—Cotton Compresses and Warehouses.—The Grenada (Miss.) Cotton Compress Co. is reported as negotiating for the purchase of 100 acres of land on which to erect a modern system of compresses and warehouses. The company has in operation nine compresses in Mississippi, and is capitalized at \$350,000.

Memphis—Cold-storage Plant.—Albert Seesel has purchased building which will be remodeled, and a cold-storage plant installed at a cost of \$8000.

Memphis—Box Factory.—F. K. Spicer, W. R. Johnston, R. A. Given of Memphis, E. J. Pennypacker of Philadelphia, Pa., and associates have applied for a charter for the Memphis Cigar Box Co. with \$10,000 capital stock to manufacture all kinds of light wooden boxes, such as cigar boxes, candy boxes and Spanish-cedar tray boxes. Machinery

has been purchased; temporary office, Room 614, Tennessee Trust Building.

Memphis—Publishing.—Chartered: Union Publishing Co., with \$10,000 capital stock, by Ed F. Grace, F. G. Grace, H. M. Doyle and associates, to conduct a printing and publishing plant.

Mt. Pleasant—Phosphate Mines.—Swann Creek Phosphate Co. has been incorporated with \$200,000 capital stock by Melville B. Colburn, Commercial Building, St. Louis, Mo.; Harry R. Danner, Frederick H. Cunningham, 129 West 81st street, New York, and J. Le Moyne Danner, Jr., 68 West 49th street, New York, N. Y., to mine phosphate.

Tazewell—Zinc Mining.—A tract of 1000 acres of zinc lands in Claiborne county has been purchased by Messrs. Miller, O'Bryan, Smith & Elsom, and have about completed arrangements for its development; daily output to be 100 tons of smelting ore. Prof. J. F. Elsom of New Albany, Ind., is consulting chemist.

Timpson—Manufacturing, etc.—Timpson Manufacturing Co. has been incorporated with \$8000 capital stock to engage in manufacturing and mercantile business; incorporators, J. T. Hogard, J. T. Richards, W. E. Craycroft and others.

TEXAS.

Alvin—Brick and Tile Works, etc.—Alvin Brick, Tile & Power Co. has been incorporated with \$20,000 capital stock by Lewis R. Sanders, Willis H. Jones and B. L. Osgood.

Beaumont—Candy Factory.—The Texas Candy Co. has been organized with \$10,000 capital stock by Charles Helm, C. M. Dodds, C. T. Helsing, Bert Hoopes, W. C. Averill, John N. Gilbert and George W. Carroll to manufacture candies. The plant of the Sea Wall Candy Co. will be removed from Galveston to Beaumont and operated.

Big Springs—Ice Plant.—Frank Tomlinson and associates will erect \$40,000 ice plant. Contracts have all been let.

Blossing—Land Improvement.—Blossing Townsite Co. has been incorporated with \$20,000 capital stock by J. A. Pierce, A. B. Pierce and others.

Brownwood—Telephone System.—Reports state that the city has decided to purchase land adjoining and on either side of Pecan bayou to present dam, a distance of 2½ miles, aggregating 407 acres, and will build a second dam and change the pumping station to same. Address The Mayor.

Denison—Electric-light Plant.—Clark & Hanon, it is reported, will apply for franchise to construct electric-light plant.

El Campo—Oil Wells.—Chicago-Texas Oil Co. has incorporated with \$50,000 capital stock to drill for oil; incorporators, Thomas J. Rolf, Clark Fisk, A. E. Carlson, all of El Campo; E. E. Yaxley, E. H. Olson, C. F. Elfstrom, John A. Holmstrand, all of Chicago, Ill., and associates.

Houston—Lumber Company.—Carter Lumber Co., recently incorporated, has completed organization with J. Press Carter, president; Joe S. Rice, vice-president, and B. J. Barry, secretary; capital stock \$50,000.

Houston—Rice Cultivation.—Navidad Rice Co. has been organized with \$10,000 capital stock for the cultivation of rice. A tract of 5200 acres of land on the east and west banks of the Navidad river has been purchased, 4000 acres of which will be planted in rice. A canal for irrigation purposes will be dug on the west side of the river. Bernard Brown is president; Russell Brown, vice-president; C. W. Robinson, secretary, and Russell Stapp, treasurer.*

Lufkin—Electric-light and Power Plant.—It is reported that McCarthy, Starnes & Co. have applied for franchise to construct and operate electric-light and power plant.

Mansfield—Telephone System.—The Mansfield Telephone Co. has increased capital stock from \$8000 to \$16,000.

New Braunfels—Pottery.—Conal Earthenware Co. has been organized by Emil Heinen of New Braunfels and H. T. Nordhurst of Fort Worth, Texas, to manufacture pottery, tiles, drain and sewer pipe. Site has been purchased and machinery ordered.

Paris—Handle Factory.—Ames Shovel & Tool Co. of Texas, reported incorporated last week with \$75,000 capital stock, will manufacture shovel handles, and will erect five buildings—55x184 feet, 55x55 feet, 32x142 feet, 85x120 feet, 20x50 feet, respectively—of frame construction. Hobart Ames of Boston, Mass., is president; Wm. H. Johnson, secretary and manager, and Oliver W. Mink, treasurer, both of Paris.

Samfordyce (not a postoffice)—Bridge.—It is reported that the St. Louis, Brownsville & Mexico Railroad, W. P. Homan, chief engineer, Corpus Christi, Texas, is arranging for

the construction of a bridge across the Rio Grande from Samfordyce to San Miguel, Mexico.

San Antonio—Machinery and Supplies.—San Antonio Machine & Supply Co. has increased capital stock from \$50,000 to \$100,000.

Stamford—Hardware.—The White Hardware Co. has been incorporated with \$15,000 capital stock by J. A. White, L. S. Malone of Stamford and T. A. White of Anson, Texas.

Waxahachie—Cotton-storage.—E. C. Stevenson, John M. Harrison and Henry Forbes of Waxahachie, J. R. Faulkner of Sterrett, Texas, and J. M. Wheatley of Howard, Texas, have incorporated the Farmers' Cotton Storage Co. with \$2000 capital stock.

Weatherford—Sewerage System.—City has voted affirmatively the \$25,000 bond issue previously reported for the construction of sewerage system. Address The Mayor.

VIRGINIA.

Burkeville—Amusement Company.—Chartered: Lynchburg Skating Rink Co., with an authorized capital stock of \$10,000, to operate skating rinks, amusement halls, etc. J. L. Bradshaw is president; L. R. Bradshaw, vice-president; S. J. Bobcock, vice-president and general manager.

Damascus—Extract Factory.—Southport Extract Co. has been incorporated with an authorized capital stock of \$100,000 to manufacture and deal in bark extracts, etc.; J. E. Rooney of Buffalo, N. Y., president, and C. A. Backer of Melrose, Mass., secretary-treasurer.

Dayton—Land Improvement.—Incorporated: The Dayton Land & Improvement Co., with G. W. Hedrick, president; J. A. H. Good, vice-president; W. H. Weller, secretary, and J. H. Rhodes, treasurer; authorized capital stock \$10,000.

Luray—Water-power-Electrical Plant.—Shenandoah River Power & Light Co. has been organized with T. J. Berrey, president, and Charles S. Landrum, vice-president, for the proposed development of the water-power of the Shenandoah river two miles from Luray, and its transmission by electricity for furnishing the town with light and power. A dam is being constructed across the river, and from 600 to 1200 horse-power will be developed; capital stock \$50,000. This company is a reorganization of the Luray Gas & Electric Co., previously mentioned in connection with this enterprise. N. Wilson Davis, Charlestown, W. Va., is engineer in charge.

Midlothian—Coal Lands.—It is reported that H. D. Eichelberger has purchased at \$25,000 158½ acres of coal land near Midlothian. Arrangements will be made for its development.

New Market—Marble Works.—It is reported that D. F. K. Rice will establish marble works.

Norfolk—Land Improvement.—Carolina Development Co. has been incorporated with an authorized capital stock of \$100,000. H. R. Leonard of Norfolk is president, and Leonard Vyne of Nincor, N. C., secretary-treasurer.

Norfolk—Shirt Factory.—It is reported that Salant & Salant (shirt manufacturers) are investigating with a view to locating branch plant.

Norfolk—Lumber Company.—Carolina Export Co. has been incorporated with an authorized capital stock of \$15,000 to deal in lumber. R. J. Camp of Franklin, Va., is president; W. B. Roper, vice-president; John R. Walker, secretary, and R. S. Cohn, treasurer, all of Norfolk.

Norfolk—Lumber Company.—Chartered: The Lucas Company, with an authorized capital stock of \$100,000, to deal in lumber. H. L. Smith is president and treasurer; A. R. Smith, vice-president, and E. R. Baird, Jr., secretary.

Richmond—Saddlery Factory.—Chartered: Finch-Whitlock Company, with an authorized capital stock of \$50,000, to manufacture saddlery, leather and shoe findings. J. W. Finch is president; P. J. Straus, vice-president, and W. M. Whitlock, secretary-treasurer.

Roanoke—Sewerage System.—Wingate & McGehee have been awarded contract for constructing proposed sewer system in the Crystal Spring section. About \$10,000 will be expended.

Roanoke—Telephone System.—The Virginia-Tennessee Telephone Co. of Pulaski, Va., has secured 30-year franchise to construct and operate telephone system, and arrangements will be made at once for installing system. The company was previously mentioned as having purchased site on which to erect building 37x150 feet, to be equipped as telephone exchange.

Roanoke—Street and Sewer Improvements. The \$375,000 bond issue (previously reported)

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for street and sewer purposes has been voted. Address The Mayor.

Vienna — Electric-power Plant. — Reports state that the Washington, Arlington & Falls Church Railway is considering the erection of electric-power plant at Vienna; F. B. Hubbell, vice-president and general manager, 3528 M street, Washington, D. C.

West Augusta—Wood-alcohol Plant, etc. — Charles F. Squibb of Brooklyn, N. Y., has purchased at \$30,000 the farm, hotel, stove mill, etc., of J. H. Cross, which will be operated. It is also stated that a plant for the manufacture of wood alcohol will be erected.

WEST VIRGINIA.

Charleston—Sand-lime Brick Plant.—Davidson Bros. contemplate establishing plant for the manufacture of sand-lime brick; daily output 10,000.*

Charleston—Coal-mining.—Chartered: Kanawha & Pittsburg Coal Co., with A. S. Alexander, president; C. P. Peyton, vice-president and general manager, and Edward M. Craig, secretary-treasurer, to mine coal on 100,000 acres of land containing two seams of coal.

Charleston — Coal Mines. — It is reported that E. P. Mucklow of Scranton, Pa., and associates have purchased coal properties in the Paint creek field having a daily output of 3000 tons, and development work will shortly begin. It is estimated that about \$600,000 is involved in the deal. Negotiations are said to be pending for the control of the entire field.

Charleston — Land Improvement.—Reports state that Chilton, MacCorkle & Chilton of Charleston and W. C. Spruie of Chester, Pa., have purchased 320 acres of land which will be developed as suburban residence section, dividing into building lots, etc. A hotel will also be built.

Clarksburg — Electric Signs. — Searchlight Electric Sign Co. has been incorporated with \$10,000 capital stock by W. A. Keisler, L. N. Loenser and associates to deal in electric signs.

Clendenin—Hardware.—Incorporated: Clendenin Hardware Co., with \$25,000 capital stock, by Ira K. Goff, H. R. Stump, W. L. Young, George Ort and others.

Curtin—Saw-mill.—Pardee & Curtin Lumber Co., Sutton, W. Va., will erect double band-saw mill, replacing plant reported burned last week.

Grafton—Brewery.—Tygart's Valley Brewing Co. has been incorporated with \$200,000 capital stock by Harry P. Gilmore, Thomas A. Deveny, John T. McGraw, John H. Rock, Jr., and William W. McClanie, all of Fairmont, W. Va., to operate brewery.

Grafton—Saw-mills.—It is reported that W. H. Witherspoon of Wampum, Pa.; R. W. Caddell of Connellsville, Pa.; H. Kirkland, Mary E. Kirkland, J. S. Allen and C. M. Hughes, all of Beaver, Pa., have purchased 300 acres of land near Grafton for development. Arrangements will be made at once for erecting and operating saw-mills.

Hinton — Electric-light Plant. — City will vote December 15 on the proposed issuance of \$25,000 of bonds for constructing electric-light plant. Address The Mayor.

Huntington — Coal Mines.—It is reported that the Dingess Run Coal Co. will arrange at once for the development of coal lands which it controls on the Dingess Run property.

Martinsburg—Orchard and Canning Factory.—The Dry Run Orchard Co. has incorporated with \$10,000 capital stock to grow all kinds of fruit and vegetables, canning, drying and marketing same; incorporators, S. W. Walker, W. C. Kilmer, A. H. Walker, C. M. Seibert and N. K. Weaver.

Martinsburg—Fruit Orchard.—North Mountain Orchard Co. has been incorporated with \$10,000 capital stock by E. C. Henshaw, I. W. Wood, C. W. Link, E. C. Williams and Wilbur H. Thomas to conduct a fruit orchard.

New Cumberland—Coal Mines.—Pittsburg & West Virginia Coal Co. has incorporated with \$1,000,000 capital stock to mine coal; incorporators, Samuel W. Collins, A. W. Alnatie and others.

Parkersburg — Shirt and Overall Factory.—Case Manufacturing Co. is remodeling three-story building 40x85 feet after plans by D. Adair, which will be equipped for the manufacture of shirts, overalls, etc.; daily capacity 100 dozen.*

Princeton—Brick Works and Lumber Mill. Princeton Brick & Lumber Co. has incorporated with \$10,000 capital stock to manufacture and deal in brick, tile, cement, lumber, etc.; incorporators, L. H. Perkins, Hugh G. Woods, E. W. Hale, Isalah Bee of Princeton, James Collins of Bramwell, W. Va., and associates.

Sistersville — Oil and Gas Wells. — A. L. Boyd, J. W. Cushing, John J. Neely, D. Edward Sanders and E. J. Cooper have incorporated the Ambler Farm Oil Co. with \$24,000 capital stock to drill for oil and gas.

St. Marys—Mineral Wells, etc.—W. F. Varner, Joe Williams, C. M. Cuck, R. W. Douglass and others have incorporated Nature's Remedy Springs Co. with \$15,000 capital stock to operate mineral wells, etc.

INDIAN TERRITORY.

Davis — Water-works.—Reports state that W. W. Cook & Sons, Junction City, Kan., have been awarded contract at \$23,200 for the construction of water-works, previously reported; W. P. Bullock, engineer.

OKLAHOMA TERRITORY.

Anadarko — Electric-light-plant Improvements.—City contemplates issuing \$5000 of bonds for extending electric-light plant. Address The Mayor.

Davenport—Telephone System.—The Ridley Telephone Co. has been incorporated with \$5000 capital stock by R. C. Ridley, W. R. Ridley and associates to construct and operate telephone system.

El Reno—Gas and Electric-light Plant.—El Reno Gas & Electric Co., reported incorporated last week with \$150,000 capital stock to operate gas and electric-light plant, has completed organization with Milo D. Campbell, president; Lyman H. Byers, vice-president; C. A. Wilson, treasurer; H. T. Harvey, secretary and manager. Building has been erected and machinery installed.

Oklahoma City — Drug Company. — Chartered: Oxf Drug Co., with \$10,000 capital stock, by G. K. Kaiser, J. H. Earp and N. M. Earp.

Oklahoma City—Cracker and Candy Factory.—The Oklahoma Cracker & Candy Co. has increased capital stock from \$20,000 to \$30,000.

Perry—Mill and Elevator.—The Tyro Mill & Elevator Co. has been incorporated with \$35,000 capital stock by J. E. Dolezal of Perry, Joseph Fyala of Tyro, Kan., and others.

BURNED.

Birmingham, Ala.—Lauderdale College at North Birmingham; loss \$40,000.

Clarksburg, W. Va.—Walshour Candy Co.'s factory and store-house.

Creston, S. C.—R. E. Edwards' cotton gin; loss \$10,000.

Harrisburg, Ark.—Bott Bros. Manufacturing Co.'s stove factory; loss \$3000.

Harriman, Tenn.—Harriman Hoe & Tool Co.'s factory; loss \$50,000.

Houston, Texas.—The Houston public-school building. Address The Mayor.

Mobile, Ala.—The Bay Shore Hotel at Alabama Port; loss \$10,000.

Nashville, Tenn.—O'Bryan Bros.' overall factory; loss \$60,000.

Rome, Ga.—Rome Hosiery Mills' plant entirely destroyed; capital stock \$25,000.

Savoy, Texas.—J. P. Durrett's cotton gin.

Trenton, Ky.—The tobacco factories of J. R. Russell and Chestnut Bros.

Washington, D. C.—Washington Gas Light Co.'s plant damaged by explosion; loss \$150,000.

Waynesboro, Miss.—H. P. Moore's cotton gin.

BUILDING NOTES.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Arcadia, Fla.—Store Building.—L. L. Morgan will erect two-story building, 120x28 feet, of brick and gravel roof, at a cost of \$6000, replacing structure recently burned.

Asheville, N. C.—Hotel.—The Smith Estate, C. H. Miller, commissioner, will erect five-story hotel 128x139 feet of hollow concrete blocks. Steam heat, electric lights, two passenger and one freight elevator will be installed. Bids for the construction will be opened February 1. A plant for the manufacture of the hollow concrete blocks and cement brick used in the construction will be established on the premises.*

Atlanta, Ga.—Church.—George A. Clayton is the contractor (not architect, as erroneously reported last week) for \$40,000 edifice to be erected by the Christian congregation. Plans for the edifice were prepared by Geo. W. Kramer of New York, N. Y., and A. C. Bruce, 711 English-American Building, is supervising architect.

Augusta, Ga. — Church. — Curtis Baptist

Church contemplates building an edifice to cost \$15,000, and suggestions are invited regarding heating, lighting and seating arrangements, 10 memorial windows, building materials of various kinds, rolling partitions, etc. A \$1500 pipe organ will probably be purchased. No architect has been engaged, but possibly W. W. Woodward, Jr., will draw the plans and specifications and the Woodward Lumber Co. be the contractor; Charles G. Dilworth, pastor.*

Bartlesville, I. T.—Hospital.—G. W. Sutton, F. R. Sutton and associates have organized company to erect a \$60,000 hospital.

Beaumont, Texas—Business Block.—H. C. Maurer has about completed plans for two-story brick business block reported last month to be erected by S. Blanchette and W. C. Averill of Beaumont and K. B. Seale of Jasper, Texas.

Beaumont, Texas — Church. — M. A. McKnight has contract at about \$38,000 for the erection of edifice for the First Methodist Church, previously mentioned.

Bedford Springs, Va.—Hotel.—It is reported that the J. M. Echols Company of Lynchburg, Va., is arranging for the erection of hotel.

Bristol, Va.—Tenn.—School Building.—City will arrange for the erection of two-story building to cost \$10,000. Address The Mayor.

Bluffdale, Texas—Bank Building.—Dr. Holt will erect a two-story rock building to be occupied by Bluffdale State Bank, recently organized.

Bronson, Fla. — Courthouse.—The erection of a courthouse for Levy county is being considered; J. R. Lutterloh of Cedar Key, Fla., chairman county commissioners.

Calhoun, Ky.—Warehouse.—McLean County Warehouse Co. has been organized to erect tobacco warehouse.

Charleston, S. C. — Cotton Warehouse. — John F. Maybank has purchased site on which to erect \$50,000 cotton warehouse; to have 25 compartments of 1000 bales each.

Chattanooga, Tenn.—Fire Station.—Plans by R. H. Hunt have been adopted for proposed municipal fire station to cost \$8000.

Clarksburg, W. Va.—Church.—A. P. Gladden is preparing plans for proposed \$25,000 edifice to be erected by the Christian congregation; to be built of cement-stone blocks.

Cleburne, Texas—Warehouse.—The Southern Cotton Association of Johnson county is reported as to erect cotton warehouse.

Cumberland, Md.—Office Building.—Sealed bids, marked "Proposals for Office Building" and addressed to the Board of Water and Electric-Light Commissioners, will be received until December 15 for the erection of three-story brick office building for the city. Plans and specifications may be seen at the office of the Board of Water Commissioners. Usual rights reserved.

Cumberland, Md.—Depot.—The Baltimore & Ohio Railroad Co. is considering making some improvements to station facilities, but has not as yet decided on the erection of passenger depot. T. Fitzgerald is general manager.

Dallas, Texas—Building.—McCord & Son-nentheil have contract to erect two-story building, 60x90 feet, for George Loudermilk; cost \$15,000.

Danville, Va.—Lodge Building.—H. T. Pearson is preparing plans for improvements reported last week to be made to building for B. P. O. Elks No. 227. About \$12,000 will be expended; J. O. Boatwright, chairman building committee.

Decatur, Ala.—Office Building.—J. L. Brook and J. T. Jones have purchased site on which to erect six-story office building.

Decatur, Ala.—Opera-house.—Local parties have organized company and purchased site for the erection of opera-house. Thomas Polk Littlejohn will be manager.

Donaldsonville, La. — School Building. — Mackenzie & Goldstein are preparing plans for \$50,000 high-school building, previously reported; to be of brick and cement with reinforced concrete floors, tile roof and equipped with a low-pressure steam-heating plant; the auditorium to have a seating capacity of 600.

Dublin, Ga.—Hotel.—J. D. Smith, C. W. Brantley and Dr. J. M. Page will erect a five-story hotel to cost \$100,000. An electric-light plant will be installed.

Elm Grove, W. Va.—School Building.—Plans have been prepared by C. D. McCarty, Reilly Building, Wheeling, W. Va., for proposed \$40,000 brick school building.

Enterprise, Ala. — School Building. — City will vote on the issuance of \$15,000 of bonds for the erection of school building. Address The Mayor.

Fayetteville, N. C.—Hospital.—W. A. Ches-

terman has been awarded contract for the erection of operating rooms and the Cochran annex at the Highsmith Hospital, previously reported; cost \$10,000.

Fort Smith, Ark.—Hotel Improvements.—M. L. Waller, Dallas, Texas, is preparing plans for improvements, previously reported, to be made to the Southern Hotel, C. C. Waller, owner.

Gadsden, Ala.—Dwelling.—Charles P. Smith has purchased site, 125x200 feet, on which to erect a brick-vencer residence to cost \$5000.

Gadsden, Ala.—Building.—T. F. Marlow has contract to erect two-story brick building for John Paden.

Gadsden, Ala. — Office Building. — A. D. Simpson, architect, has purchased site on which to erect a three-story office building, 44x50 feet, to be equipped with steam heat, electric lights, etc.

Gadsden, Ala.—Dwelling.—S. S. Caldwell will erect residence on site 100x320 feet, recently purchased.

Gallatin, Mo.—Courthouse.—Davies county has voted affirmatively the proposed \$75,000 bond issue for erection of courthouse. Address County Judge.

Georgetown, S. C.—Store Building.—W. F. Carr has contract to erect two-story store building 25x70 feet, of brick, for Herman Schenk.

Georgetown, S. C. — Store Building.—The Kaminski Hardware Co. will erect a modern store building.

Glenville, Ga.—Hotel.—W. B. Surrency is receiving bids on a 30-room brick hotel, complete with water and lights.

Graceville, Fla. — Lodge Building. — N. R. Phillips, secretary Building Committee, Centerville, No. 152 Masonic Lodge, is receiving bids for the erection of brick building; work to begin about January 1. Plans and specifications furnished on application.

Gurdon, Ark.—Hotel.—Chas. L. Thompson, Little Rock, Ark., prepared the plans for hotel mentioned last week as being erected by R. S. and N. P. O'Neal; to be two stories, 77x142 feet, of pressed brick, to be equipped with electric fixtures and cost \$16,000.*

Hampton, Ark.—Courthouse.—Gibb & Sanders, Little Rock, Ark., have been engaged to prepare plans and specifications and superintend the construction of Calhoun county's proposed courthouse; to be two stories, of light gray brick with stone and terra-cotta trimmings and tile corridors; cost \$35,000.

Houston, Texas—School Building.—City, it is stated, will arrange at once to rebuild school building reported burned. It is proposed to erect a brick building to cost \$15,000. Address The Mayor.

Jackson, Miss.—Building.—Jackson Coffin & Casket Co. has let contract for the erection of proposed \$10,000 building.

Jacksonville, Fla. — Building. — Burwell & Hillyer have contract to erect two-story building, 26x61 feet, of brick with asphalt roof, for W. B. Young at a cost of \$5300. Electric fixtures and modern plumbing will be installed.

Jasper, Ala.—Courthouse.—Walker county, it is reported, will erect courthouse to cost \$75,000. Address County Judge.

Jennings Gap, Va.—Dwelling.—J. H. Cross of West Augusta, Va., it is reported, will erect residence.

Kansas City, Mo.—Warehouse.—Urban Construction Co. has contract to erect brick and concrete warehouse 100x145 feet at a cost of \$100,000 for Miss Sarah Sheldley, to be occupied by the D. A. Morr Transfer & Storage Co.

Kansas City, Mo.—Store Building.—F. H. Ealy has secured permit for erection of six-story brick and stone building 28x130 feet at a cost of \$22,000; to be occupied by Duff & Repp Furniture Co.

Knoxville, Tenn.—Building.—M. B. Arnstein is having plans prepared by Baumann Bros. for business building.

Lahmansville, W. Va.—Store Building.—The Farmers' Store Co., recently organized with J. L. Holt, president, will arrange at once for the erection of store building 30x60 feet.

Lake Charles, La. — Store Building. — The Lake Charles Carriage & Implement Co. has accepted plans by Architect Carter for proposed two-story brick building; to have a total floor space of 19,200 square feet.

Lake Village, Ark.—Office Building.—M. E. Dundy has contract to erect office building for John Tusiek, for which H. J. Harker of Little Rock, Ark., was previously reported as preparing plans; to be two stories, of re-press hydraulic brick, 50x30 feet, ordinary construction, and cost about \$9000.*

Laredo, Texas—School Buildings.—City has voted affirmatively the \$40,000 bond issue pre-

viously reported for the erection of school buildings. Address The Mayor.

Lexington, Ky.—Store and Office Building.—Mrs. M. E. Clark will erect a four or five-story store and office building with stone front.

Linden, Ala.—Jail Building.—Southern Structural Steel Co. of San Antonio, Texas, has contract to erect jail building for Marengo county, previously reported, after plans by D. F. Youngblood, San Antonio, Texas; to be 105.5 feet, three stories (the central portion being five stories), of fireproof construction, equipped with steam or hot-air-heating plant, electric lights, and cost \$24,000.

Little Rock, Ark.—Apartment-house.—Gibbs & Sanders are preparing plans for a two-story pressed-brick apartment-house 116x110 feet, to be erected by the agents of the Citizens' Investment & Security Co.

Little Rock, Ark.—Building.—W. D. Holtzman has been awarded contract at \$15,100 for building proposed annex and hospital to the Confederate Home; to be two stories, of brick.

Live Oak, Fla.—Opera-house.—A. J. Robertson, mentioned last week as to build opera-house, will erect brick building 60x75 feet, of fireproof construction, equipped with electric lights and costing \$5000.

Louisville, Ky.—Store Building.—McDonald & Dodd are preparing plans for store building to be erected by Harry Weissinger, J. M. Atherton and Attila Cox and occupied by the Stewart Dry Goods Co.; to be seven stories, 180x180 feet, of marble, stone and enameled brick or tile over a steel superstructure. Four passenger and one freight elevator will be installed.

Lynchburg, Va.—Dormitory.—The Board of Trustees of the Presbyterian Orphanage have authorized the erection of dormitory building; to be two stories, 49x32 feet, with a wing 20x16 feet; cost \$4000. Rev. J. A. McMurray is a member of the board.

Macon, Ga.—Building.—The Trustees of the Georgia State Academy for the Blind, Ben C. Smith, chairman, will open bids January 1 for the erection of academy; building to be 310 feet wide, with two wings, and running back 165 feet, and central wing 236 feet long, the main front and end wings to be two stories and the central wing one story; plans and specifications on file at the office of chairman; also at office of Alexander Blair, architect, Macon. Certified check for \$3000, payable to the chairman, must accompany each bid. Usual rights reserved.

Manassas, Va.—Building.—C. E. Nicol will erect building replacing structure recently burned.

Manassas, Va.—Building.—O. E. Newman will erect two-story brick building 50x70 feet, with tin roof. Gas fixtures and steam heat will be installed.

Memphis, Tenn.—Dwelling.—W. R. DeLoach has let contract to E. M. Apperson for the erection of two-story dwelling. Chighizola, Harker & Cairns prepared the plans.

Memphis, Tenn.—Dwelling.—E. M. Apperson has contract to erect residence for E. D. Williamson, for which Chighizola, Harker & Cairns were previously reported as preparing plans; cost \$6500.

Memphis, Tenn.—Theater.—Fidelity & Burch of Owensboro, Ky., will erect \$75,000 theater on site reported last week as purchased at \$20,000.

Memphis, Tenn.—Dwellings.—Horne Bros. have purchased four acres of land on which to erect 30 brick and stone veneer dwellings to cost about \$6500 each.

Memphis, Tenn.—Building.—Bartholomew Roofing Co. has secured site, 75x175 feet, on which to erect building.

Memphis, Tenn.—Amusement Park.—The Park Circuit & Realty Co., John D. Hopkins, general manager, operating amusement parks in various cities, is reported as to expend \$600,000 in improvements at East End Park, including the erection of a theater to cost \$15,000, building \$30,000 scenic railway, etc. A. B. Morrison is local manager.

Memphis, Tenn.—Office Building.—The Selden-Breck Construction Co., it is reported, will receive contract for the erection of seven-story office building for the Goodwyn Institute, for which Alsop & Wood were previously mentioned as preparing plans; building to be of fireproof construction; cost \$260,000; equipped with electric elevators, etc.

Meridian, Miss.—Warehouses.—It is reported that the New Orleans & Northeastern Railroad (Queen & Crescent Route) will erect two warehouses, each 60x50 feet; J. J. Steadman, New Orleans, La., superintendent bridges and buildings.

Mobile, Ala.—Dwelling.—Rudolph Benz & Sons, Masonic Building, have completed plans for O. Otenstein's proposed \$10,000 residence.

Mobile, Ala.—Courthouse and Jail.—Plans by Rudolph Benz & Sons, Masonic Building, have been adopted for the erection of courthouse and county jail, previously reported; cost \$200,000.

Mobile, Ala.—Warehouse.—American Supply Co. has had plans prepared by Rudolph Benz & Sons, Masonic Building, for the erection of a six-story warehouse.

Mobile, Ala.—Rudolph Benz & Sons, Masonic Building, have completed plans and specifications for \$10,000 warehouse to be erected by Adam Glass. Bids for the construction will be received until after January 1.

Nashville, Tenn.—Building.—Committee from the county court of Davidson county, Tennessee, W. G. M. Campbell, chairman, will receive plans and specifications until December 18 for a building suitable for criminal court and jail, to be in one building and not less than 100 feet square. For further information address James Cassetty, secretary, McNairy and Clinton streets. No plans and specifications will be paid for unless adopted by the committee.

Nashville, Tenn.—Freighthouse.—It is reported that the Illinois Central Railroad will arrange for the erection of freighthouse; J. T. Harahan, second vice-president, Chicago, Ill.

Nevada, Mo.—Courthouse.—Vernon county will vote January 11 on the issuance of \$75,000 of bonds for the erection of proposed courthouse. Address County Judge.

New Orleans, La.—Warehouse.—The Gulf Bag Co. is arranging for the erection of proposed warehouse; to be of concrete construction, with metal window-frames, entirely fireproof, 130x230 feet.

Norfolk, Va.—Warehouse.—The American Cigar Co. is arranging for the erection of warehouse; to be of iron construction and cover 15,000 square feet of ground.

Norfolk, Va.—Theater.—J. H. Pierce has contract at \$125,000 for the erection of theater for the Colonial Theater Co., previously reported, after plans by Albert Swazey of New York, N. Y.

Norfolk, Va.—Dwellings.—J. D. Allen has contract to erect five houses for Mrs. L. F. Trimmer to cost \$16,000.

Oklahoma City, O. T.—Union Depot.—Reports state that the St. Louis & San Francisco Railroad, J. F. Hinckley, chief engineer, St. Louis, Mo., and the Chicago, Rock Island & Pacific Railway, W. L. Darling, chief engineer, Chicago, Ill., are arranging for the erection of proposed \$200,000 union depot.

Palestine, Texas.—School Building.—City will vote January 8 on the issuance of \$20,000 of bonds for the erection of school building. (A \$20,000 bond issue was mentioned in November as voted, but was later declared illegal.) Address The Mayor.

Paris, Texas.—College Building.—A two-story brick addition will be built to Mary Connor College at a cost of \$15,000, replacing building recently burned; H. B. Abernethy, president.

Pensacola, Fla.—City Hall.—City is arranging for the erection of city hall, for which a \$75,000 bond issue was previously reported voted. Address The Mayor.

Pinola, Miss.—Bank Building.—The Pinola Bank has purchased site on which to erect a brick building.

Richwoods, W. Va.—Warehouse.—Clarksburg (W. Va.) Distributing Co. has had plans prepared by A. P. Gladden of Clarksburg, W. Va., for a frame warehouse, 60x125 feet, with stone foundation.

Roanoke, Va.—Warehouse and Office Building.—Gelsner Manufacturing Co. of Waynesboro, Pa., has purchased site on which to erect warehouse and office building.

Roanoke, Va.—Fire Station.—City has voted affirmatively the \$25,000 bond issue mentioned last month for the erection of fire station and the purchase of fire engine. Address The Mayor.

Rome, Ga.—Warehouse.—Georgia Warehouse & Brokerage Co., recently incorporated, will erect corrugated-iron warehouse 50x100 feet; A. C. Lyon, Knoxville, Tenn., engineer in charge.

Savannah, Ga.—Park Conservatory.—Burnham-Hitchings-Pierson Company of New York, N. Y., has submitted to the park and tree commission two sets of plans for proposed conservatory in Colonial Park—one plan calling for an expenditure of \$5100 and the other \$11,000.

Sewell's Point, Va.—Hotel.—The Inside Inn Hotel Co. has been organized for the erection of hotel to be known as the Inside Inn, previously reported to be built on the exposition grounds; the building to be two stories, 350x460 feet; F. M. Williams, architect, Room 310, Atlantic Building, Norfolk, Va.; J. St. Clair,

general manager; office, 312 Atlantic Building, Norfolk, Va.

Sewell's Point, Va.—Administration Building.—Bette-Hayden Construction Co., Bank of Commerce Building, Norfolk, Va., is figuring on the general contract for the Administration Building for the Jamestown Exposition, previously mentioned, and for which bids will be received until December 16.

Sherman, Texas.—College Building.—C. W. Bulger & Son, Dallas, Texas, are preparing plans for building reported last week to be erected by Austin College, Dr. T. S. Clyce, president; to be almost fireproof, of brick and stone, 130-foot frontage, equipped with steam heat, electric and gas lights, and cost \$25,000.*

Soperton, Ga.—School Building.—Town will erect \$5000 brick school building. Architect has not been engaged. Address Town Clerk.

St. Louis, Mo.—Building.—R. W. Morrison Construction Co., 113 North 8th street, has contract to erect four-story building, 79x109 feet, of mill construction, for John E. McKinney, mentioned last week.

Tryon, N. C.—Hotel.—F. E. Hellen and others have organized company with \$50,000 capital stock to improve the Oak Hill Hotel.

Union City, Tenn.—Hotel Improvements.—J. C. Reynolds is reported as arranging for the erection of a 25-room addition to the Palace Hotel.

Valley Mills, Texas.—School Building.—J. S. Pool, secretary School Trustees, will open bids December 21 for the erection and completion of a two-story stone school building. Plans and specifications can be seen at the secretary's office and at the office of Glenn Allen and M. W. Scott, architects, Provident Building, Waco, Texas. Certified check for \$300, payable to the secretary, must accompany each bid. Usual rights reserved.

Vicksburg, Miss.—Jail Building.—Plans and specifications will be received until January 1 by the Chancery Clerk, Vicksburg, Miss., for the erection of modern jail building. Those submitting plans and specifications must show the probable cost of constructing jail complete and ready for use, bill to accompany plans. Usual rights reserved; J. D. Laughlin, clerk.

Washington, D. C.—Apartment-house.—Thomas H. Pickford has begun the erection of proposed four-story apartment-house to cost \$40,000.

Washington, D. C.—Dwelling.—A. Groenner has completed plans for Alonzo C. Bliss' proposed residence.

Webster Springs, W. Va.—Warehouse.—A. P. Gladden of Clarksburg, W. Va., has prepared plans for a frame warehouse, 56x100 feet, with stone foundation, to be erected by the Clarksburg Distributing Co., Clarksburg, W. Va.

Wheeling, W. Va.—Theater.—Giesey & Faris have completed plans for proposed theater to be erected by Charles A. Feinler.

Woodstock, Va.—Jail Building.—Shenandoah county is considering the erection of a \$20,000 jail building. Address J. Harper Zirkle.

RAILROAD CONSTRUCTION.

Railways.

Arnaudville, La.—Mr. E. B. Cushing, general superintendent of Morgan's Louisiana & Texas Railroad, New Orleans, informs the Manufacturers' Record that the proposed extension is from Arnaudville to Port Barre, La., about 12 miles, via Leonville. At Port Barre the Colorado Southern, New Orleans & Pacific's proposed line will make connection. It is expected that bids will be opened early in January at Mr. Cushing's office.

Asheville, N. C.—Reported that Cox Bros. of Asheville propose to build an electric railway from Asheville to Greenville, S. C.

Asheville, N. C.—Reported that the Southern Railway will build a new line from Asheville, N. C., via Burnsville, N. C., to Bristol, Tenn. W. H. Wells is engineer of construction at Washington, D. C. He informs the Manufacturers' Record that he has received no advice that the company will build such a line.

Athens, Ga.—Reported that the contract to grade the proposed Athens & Jefferson Railroad has been let to Gwathmey & Mackall of Norfolk, Va.

Austin, Texas.—Mr. A. J. Eilers, of McKean, Eilers & Co., writes the Manufacturers' Record that he has interested some New York people in the proposed interurban railway between Austin and Lockhart, and they now have an engineer looking over the ground to make a report in a few days.

Baltimore, Md.—The Chesapeake Construction Co., Percy B. McLaren, president, has the contract for grading for second track on

the Western Maryland Railroad for two miles north from Walbrook Station. On the Cumberland extension there are 58½ miles of main track laid, and the connection through the Kessler tunnel will be completed by January 15 or February 1.

Baton Rouge, La.—The Kenefick-Hammond-Quigley Construction Co. of Beaumont, Texas, is reported to be investigating preparatory to starting work on the grade of the Colorado Southern, New Orleans & Pacific Railway; also reported that, in addition to building from Baton Rouge to De Quincy, La., an extension from De Quincy to Beaumont, Texas, 50 miles, will be made; surveys completed; construction to begin immediately at Baton Rouge; no grades over three-tenths of 1 per cent, and no curves over 3 per cent; rails to be 85 pounds, and laid on chemically-treated ties.

Beaumont, Texas.—The Beaumont, Sour Lake & Western Railway has applied to the city council to lay additional tracks and switches in Beaumont. R. C. Duff is president and R. C. Welles is general manager.

Big Springs, Texas.—C. E. Brown, engineer in charge, is reported to be working on a survey for the proposed West Texas & Northern Railway, 30 miles south of Big Springs.

Birmingham, Ala.—Reported that the Southern Railway is backing the purchase of two blocks of city ground on First and Morris avenues, between 25th and 27th streets, which were lately bought for \$245,000. The company will, it is said, build a freight terminal. W. H. Wells is engineer of construction at Washington, D. C.

Charleston, W. Va.—The Charleston, Parkersburg & Western Railroad Co. has been chartered to develop the Bruen coal lands north of the city. Line has been located for eight miles from Charleston. When completed road will make a short route west and north; A. S. Alexander, president; C. P. Peyton, vice-president and general manager; Edward M. Craig, secretary and treasurer; W. S. Laidley, statutory attorney. Others in the board are R. B. Cassiday and F. M. Staunton of Charleston and Alexander J. Bruen of New York city.

Charleston, W. Va.—Reported that the Coal & Coke Railway, which has just finished its line between Charleston and Elkins, has purchased land in Charleston to make a connection with the Chesapeake & Ohio Railway.

Chicago, Ill.—Mr. J. B. Berry, chief engineer of the Rock Island system, writes the Manufacturers' Record denying the press report that the company would rebuild practically all its lines. While the question of reducing grades has been up for some time, nothing has been definitely settled.

Cumberland, Md.—F. S. Landstreet, vice-president of the Western Maryland Railroad, is reported in an interview at Pittsburgh as saying that about a dozen engineer corps are in the field to survey for connections between the Western Maryland and the Washash at Pittsburgh and between the West Virginia Central and the Washash at Wheeling. The report that the Georges Creek & Cumberland Railroad had been purchased was denied, but it is understood that a deal may yet be closed and an extension to Pittsburgh built from a point five miles out of Cumberland.

Dallas, Texas.—An officer of the Missouri, Kansas & Texas Railway informs the Manufacturers' Record that he has no official knowledge of any plan to build from McKinney to Denton, Texas. This denies a late press report.

Davis, I. T.—H. S. Hockbush of Coalgate, I. T., will, it is reported, make the survey for a railroad from Davis to the Coalgate coal fields.

Deering, Mo.—The Deering Southwestern Railway, running from Deering to Camp, six miles, will, it is reported, build an extension southward from Camp to the State boundary in Dunklin county, 10 miles.

De Ridder, La.—Mr. C. F. W. Felt, chief engineer of the Gulf, Colorado & Santa Fe Railway at Galveston, Texas, is reported as saying that on the Jasper & Eastern gradient is finished to within about one mile of De Ridder, and that about six miles of track have been laid east of the Sabine river. A temporary bridge has been built across the stream. McCabe & Steen Construction Co. is advertising for contractors for 50 miles more of this line east of De Ridder, where their office is located.

Doucette, Texas.—The Hoo-Hoo Tram Co. of Doucette has been chartered to build a tramroad. The incorporators are George Adams, Sr., George Adams, Jr., Leopold Adams, Arthur J. Adams, all of Beaumont; J. J. Culley of Doucette.

Eagle Pass, Texas.—The Nueces Valley, Gulf & Mexican Railroad is reported sold

auction to S. D. Chamberlain of St. Louis, representing New York parties. The line is to run from Eagle Pass to Aransas Pass, and about 10 miles of grade has been built. Mr. Chamberlain is quoted as saying that construction will be resumed immediately.

Eddy Lake, S. C.—The Eddy Lake & Northern Railway Co., which proposes to build from Eddy Lake to Marion, S. C., has been granted the charter applied for; line 35 miles long. Norman L. James of Baltimore is president; J. W. Little, vice-president; George Eddy of Eddy Lake, secretary, and W. M. Burman of Baltimore, treasurer.

Ensley, Ala.—The Southern Railway has, it is reported, bought four blocks of land for terminals in Ensley. W. H. Wells is engineer of construction at Washington, D. C.

Esau, Ark.—The Fourche River Valley & Indian Territory Railway is reported to have finished 10 miles of line, and grading is under way for seven miles from the end of track. Line is to run from Fourche, Ark., to Jennings Falls, Ark., 44 miles.

Esau, Ark.—F. H. Hartshorne is quoted as saying that 10 miles of the Fourche River Valley & Indian Territory Railway are built, having been bought from the Fourche River Lumber Co., and that grading for seven miles from the end of track towards Jennings Falls is in progress, and is expected to be completed by September next; line to be 44 miles long from Fourche to timber south of Jennings Falls, Ark.; Frank C. Faust, chief engineer; R. G. Jenkins, contractor; both at Esau.

Flat Rock, Ky.—G. B. Nicholson, chief engineer of the Cincinnati, New Orleans & Texas Pacific Railway at Cincinnati, is reported as denying report that road will be double-tracked from Somerset, Ky., to Oakdale, Tenn., but says that a second track will be built from Flat Rock, Ky., to Helenwood, Tenn., 30 miles. Oliver Bros. & Callaway are contractors for 11.2 miles from Flat Rock to Pine Knot, and that the rest will soon be let.

Frederick, Md.—The Frederick & Middletown Electric Railroad Co. has reorganized as follows: President, James E. Ingram, Jr.; vice-president, J. Roger McSherry; secretary, Emory L. Coblenz; treasurer, Thos. H. Haller; directors, Robert P. Graham, Frank H. Callaway and Richard P. Ross.

Greenville, Miss.—Mr. W. A. Everman, secretary and treasurer of the Richey Land, Improvement & Manufacturing Co., writes the Manufacturers' Record that the Greenville & Yazoo Railway Co., of which he is a charter member, proposes to build the first section from Greenville southeast to Swan Lake, 30 miles; second section thence east to Yazoo City, and for the third section probably from Swan Lake southwest to Bentonwood, on the Mississippi river opposite Lake Providence, La. Other charter members are W. W. Stone, W. H. Negus, J. H. Leavenworth and E. R. Wortham. Construction will be vigorously pushed in the near future.

Gulfport, Miss.—Mr. F. B. McCutcheon, chief engineer of the Gulf & Ship Island Railroad, writes the Manufacturers' Record saying that he knows nothing of a proposed branch from Mendenhall to Meridian, Miss. This denies a recent press report.

Guthrie, O. T.—The Guthrie, Fairview & Western Railway is reported to have let a contract to John Hartshorne for an extension of 25 miles west from Fairview, whence the line will run to Woodward, Fort Supply and May.

Henryetta, I. T.—William Kenefick, railroad contractor, of Kansas City, is reported as saying that he will build a line from Henryetta to Shawnee, O. T., 60 miles. It will be part of the Missouri, Oklahoma & Gulf, in which he is already interested.

Houston, Texas.—H. A. Fisher, president of the Fisher Construction Co., who is spending the winter near Crockett, Texas, is quoted as saying that his company has considered the building of a railroad between Houston and Galveston.

Houston, Texas.—Edward Kennedy, vice-president and general manager, is reported as saying that the Houston, Sabine & Red River Railway will extend from Houston to Alexandria, La., 204 miles, of which 150 miles is in Texas and the rest in Louisiana. The route is via Brookridge, Davis Hill, Woodville and Jasper, Texas, and Burkeville and Leesville, La. Survey made in Texas and is under way in Louisiana. Grading in progress from Houston to Brookridge, 32 miles.

Humboldt, Tenn.—The Missouri, Tennessee & Georgia Railroad Co. has elected new officers as follows: I. H. Dungan, president; M. Williams, secretary; W. A. Jones, treasurer, and Quinton Rankins, general counsel. Mr. Dungan is reported as saying that a route for the proposed line will soon be adopted, and that construction will be

gin then. The line will run from Humboldt to either Dyersburg or Newbern, Tenn.

Imboden, Ark.—The Imboden Light & Transit Co. proposes to build from Imboden to Annieville, Smithville and other points, about 25 miles. J. L. McKarney of Imboden and others are reported interested. No construction yet.

Jackson, Miss.—The Yazoo & Mississippi Valley Railroad Co. (Illinois Central system) is reported to be rebuilding the Little J branch from Jackson to Natchez, nearly 100 miles, 85-pound rails being laid. The company is also similarly improving other lines in the lower part of the State.

Kingsville, Texas.—The St. Louis, Brownsville & Mexico Railway extension to Bay City is completed with the exception of eight miles of track, which will soon be finished, when the company will have 352 miles in operation.

Knoxville, Tenn.—W. E. Phillips is reported to have surveyed as far as Little river on the proposed Knoxville & Maryville Railway, of which W. S. Nash is president and Howard Cornick is treasurer.

Lexington, Ky.—The Lexington & Interurban Railways Co. has been chartered in New Jersey to carry out the consolidation of the Bluegrass Traction Co., the Frankfort & Versailles Traction Co., the Central Kentucky Traction Co. and the Lexington Railway Co.; capital stock authorized \$4,000,000. J. Levering Jones of Philadelphia, Percy M. Chandler and Guy W. Mallon are among those interested.

Lynchburg, Va.—The Ward Lumber Co. of Lynchburg is reported to be building a narrow-gauge line 10 or 12 miles long in Pike county, Kentucky, to open up timber land; branch offices at Pikeville, Ky., with W. D. Sutton in charge.

Marion, S. C.—The Raleigh & Charleston Railroad Co. has been granted a charter. The company has the old Carolina & Northern from Marion to Lumberton, N. C., 40 miles; capital of new company \$850,000. John Skelton Williams of Richmond, Va., is president; Howard S. Graham of Philadelphia, Pa., vice-president; C. T. Williams, secretary and treasurer. W. C. Miller of Charleston, S. C., is a director. Other members of the board are Robert L. Forrest, W. E. Weber and Henry P. Vaux, all of Philadelphia. The line, it is said, will be extended northward to Raleigh, N. C., and southward to Charleston.

McComb City, Miss.—The McComb & Columbia Railroad, under construction by Mr. J. J. White, is reported to be completed for four miles.

Mesquite, Texas.—A. C. Nafus of Mesquite is reported as saying that work on the proposed electric railway from Mesquite to Dallas would begin about January 1.

Mt. Pleasant, Tenn.—Reported that the Mt. Pleasant Southern Railway Co. is preparing to broaden the gauge and extend the line to Southport, Tenn.

Navasota, Texas.—M. Sweeney, vice-president and general manager of the Trinity & Brazos Valley Railway, is reported as saying that nearly all the grading on the extension from Mexia to Navasota has been finished, and tracklaying will begin within a week. When it is completed work on the Dallas and Fort Worth lines will be pushed. Mr. Sweeney is also reported as saying that the Santa Fe will temporarily handle the company's trains between Navasota and the Gulf as well as between Cleburne and Fort Worth.

Newberry, Fla.—Reported that on the Jacksonville & Southwestern Railway (Atlantic Coast Line) from Newberry to Perry, Fla., 58 miles, have been graded, leaving only 17 miles to complete it.

Newkirk, O. T.—Thomas A. Smith has, it is reported, been granted a franchise for the Newkirk, Topeka & Southern Electric Railway, to run north from Guthrie, O. T., and to connect at Guthrie with the interurban line to Oklahoma City and at Chillico with the Gueda Springs Electric Railway.

Norfolk, Va.—Mr. H. Fernstrom, chief engineer Tidewater Railway Co., writes the Manufacturers' Record that contracts have been let as follows: J. G. White & Co., 43 Exchange Place, New York, for 20 miles west from Southern Railway near Hurt, Va.; A. & C. Wright & Co. and W. R. Bonsal & Co. of Hamlet, N. C., 22 miles east from Meherrin, Va.; Butler Bros. Construction Co., 117 Broadway, New York, six and one-half miles east from Brookneal, Va.; Carpenter, Frazier, Dolex & Co. of Clifton Forge, Va., 20 miles west from Brookneal, Va.; Lane Bros. Company of Esmont, Va., 32 miles east from Southern Railway near Hurt, Va.; D. A. Langhorne & Co. of Alderson, W. Va., 23 miles east from Roanoke, Va.; MacArthur Bros. Company and Arthur F. MacArthur of Chicago, 112 miles west from Roanoke, Va.,

to the Bluestone river. Active operations will begin immediately, the entire line to be ready for operation December 1, 1907.

Pawhuska, I. T.—Reported that profiles are filed for proposed railroad from Caney, Kan., via Pawhuska and Blackburn to Perry or Guthrie, O. T. S. M. Porter of Caney, Kan., and W. R. Stubbs of Lawrence, Kan., are among those interested.

Perry, Fla.—A. F. Langford, contractor, is seeking 500 hands for railroad-building on the Atlantic Coast Line extension between Perry and Newberry, Fla. His force is now located at Natural Bridge, 32 miles from Perry.

Pine Bluff, Ark.—E. C. Buchanan, chief engineer for the proposed Pine Bluff, North & South Railroad, is reported to have finished the survey to De Vall's Bluff. Another survey is to be made from a point near Sherman to Lonoke, Ark.

Portsmouth, Va.—In a telegram to the Manufacturers' Record President J. M. Barr of the Seaboard Air Line denies the press report that the company has let a contract for a line from Sarasota, Fla., to Charlotte Harbor, Fla.

Richmond, Va.—Phillips & Allport have contract of Richmond & Chesapeake Bay Railway from Brook turnpike to Hungary road, and H. H. George, Jr., has been awarded contract from Hungary road to Ashland, Va. Terminal and viaduct contracts not yet let. C. P. E. Burgwyn is chief engineer. He writes the Manufacturers' Record confirming the foregoing, and says that the distance from the Richmond terminus to the Ashland terminus is 14.9 miles. Mr. George also writes the Manufacturers' Record saying that his contract is for nine miles, and that of Phillips & Allport for three miles.

Roanoke, Va.—The Norfolk & Western Railway is reported to have finished grading on the larger extension to the Berwind-White coal lands, and rails are laid to a point near Perryville. With 10 more miles of line the road will be finished.

Roanoke, Va.—The MacArthur Bros. Company will sublet grading and masonry on their contract for 108 miles of the Tidewater and Deepwater railways from Roanoke west, and A. F. MacArthur, 301-302 Terry Building, can be seen on and after December 10.

Roanoke, Va.—Mr. C. S. Churchill, chief engineer of the Norfolk & Western Railway, in a letter to the Manufacturers' Record denies the press report that the company would double-track its line from Naugatuck to Kenova.

Somerset, Ky.—Mr. J. F. Allen writes the Manufacturers' Record that the Green River Valley Railroad will be built from Standford to Scottsville, Ky., 100 miles. A correction of the old survey will be made about January 15. Bids for construction will not be opened before April 1 next.

Stockdale, Texas.—W. O. Robertson, chief contractor on the Stockdale to Cuero extension of the Galveston, Harrisburg & San Antonio Railway, will sublet work for 40 or 50 good teams.

St. Joseph, Mo.—The Atchison, Topeka & Santa Fe Railway is reported to be making \$250,000 of improvements between St. Joseph and Lexington Junction, Mo. J. Dun, Chicago, Ill., is chief engineer.

St. Louis, Mo.—Reported that the White River line of the Missouri Pacific system will be finished this month and be ready for operation January 1. It runs from Carthage, Mo., to White River Junction, Ark., 239 miles.

Tate City, Ga.—Reported that Mr. Wilson is surveying for a railroad from Tiger, Ga., to Tate City, about 20 miles, crossing the Tallulah Falls Railway at Mathis, Ga.

Trinity, Texas.—C. A. Noblitt, chief engineer of the Beaumont & Great Northern Railway, is reported as saying that grading is complete on seven miles from Trinity to Onalaska, 20 miles, and that three miles of track are laid. Line is to continue via Livingston to Beaumont, Texas, 125 miles from Trinity; rails, 56 pounds; grade, 1 per cent. or less; curves, three degrees or less; President, William Carlisle; vice-president, L. O. Jackson; treasurer, George W. Pennell.

Tulsa, I. T.—The Manufacturers' Belt Line Co. has been granted a franchise by the city council to build its proposed line in Tulsa. This line is said to be part of the project of the Kansas City, Tulsa & Southwestern Railway, which proposes to build from Kansas City via Tulsa to Oklahoma City, O. T., and Wichita Falls, Texas. Construction of the first 125 miles will, it is said, begin by February 1.

Washington, D. C.—The Washington, Arlington & Falls Church Railway will, it is reported, reconstruct part of its line to improve the alignment. F. B. Hubbell is general manager.

Wheeling, W. Va.—Reported that the Bal-

timore & Ohio Railroad is considering plans to build a new east and west route through Unlontown and Waynesburg, Pa., to Wheeling. D. D. Carothers is chief engineer at Baltimore, Md.

Street Railways.

Bristol, Va.—The city is advertising a street-railway franchise for sale. J. W. Mort is acting mayor.

Brunswick, Ga.—Construction is reported begun on the Brunswick Electric Railway by the contractor, the Standard Electric Co. of Jacksonville, Fla.

Hickory, N. C.—The Manufacturers' Record is informed that the matter of constructing and equipping the street and interurban railway at Hickory, N. C., is in the control of the Municipal Bond & Securities Co., 170 Broadway, New York.

Mobile, Ala.—The Mobile Light & Railway Co. is reported to be pushing the extension to Magazine Point via Plateau. Mr. J. Howard Wilson, president of the company, is quoted as saying that he has seriously contemplated an extension of the Marine and Broad streets line along the bay front for three miles.

New Iberia, La.—Application for a street-railway franchise has been made to the city council by a representative of an investment company. Names not yet announced.

Oklahoma City, O. T.—The Oklahoma City Street Railway Co., which is building some second track, will, it is reported, also double-track the Maywood line and the University line. The sum of \$150,000 has been appropriated for betterments next year.

Paducah, Ky.—The Paducah Street Railway Co. has filed articles to increase its capital from \$25,000 to \$250,000, and it is said an extension will be built.

Washington, D. C.—Bills have been introduced in the Senate authorizing the City & Suburban Railway, the Washington Railway & Electric Co. and the Anacostia & Potomac River Railroad Co. to lay additional tracks and to build extensions.

Winston-Salem, N. C.—Capt. R. P. Henry will, it is reported, make a survey for the extension of the street railway. The Fries Manufacturing & Power Co. is said to be interested.

MACHINERY, PROPOSALS AND SUPPLIES WANTED.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Agricultural Implements.—C. S. Green, Lake, N. C., wants addresses of manufacturers of mowing machines, also catalogues of same, and quotations on hexagon taps and band or strap, iron-clad, 1/2 inch thick, 3/4 to 1 inch broad; hexagon taps, 5-16 inch square, 3/4 inch diameter, 5-16 inch thick.

Aluminum Manufacturers.—T. M. McMillan, Monroeville, Ala., wants information regarding aluminum wire relative to letting contract for same in quantities.

Art Glass.—Curtis Baptist Church, Charles G. Dilworth, pastor, Augusta, Ga., will want 10 memorial windows not to cost over \$100 each.

Billiard and Pool Room Fixtures.—Chas. P. Emmett, Albertville, Ala., wants catalogues on fixtures for billiard and pool rooms, including tables, etc.; also ten-pin runs and fixtures.

Blower.—Samson Manufacturing Co., Samson, Ala., is in the market for one 40-inch double blower.

Boiler.—See "Engine and Boiler."

Boiler.—Board of Bond Trustees, Jacksonville, Fla., will open bids January 4 for the installation of a 300-horse-power boiler at electric-light plant.

Boiler.—James A. Dezel, Mt. Pleasant, Fla., wants prices on 60-horse-power tubular boiler; new or second-hand, in good condition. (See "Engine and Boiler.")

Boiler.—Navidad Rice Co., Bernard Brown, president, Houston, Texas, is in the market for one high-pressure tubular boiler, size

72x18; second-hand, in good condition. (See "Engine and Boiler.")

Boilers.—Samson Manufacturing Co., Samson, Ala., is in the market for two 80-horse-power boilers. (See "Engine and Boilers.")

Brick Machinery.—Davidson Bros., Charleston, W. Va., want information as to cost of machinery and plant for the manufacture of sand-lime bricks; daily output 10,000.

Brick Machinery.—See "Concrete-block Machinery."

Brick Machinery.—Macon Brick Co., 353 3d street, Macon, Ga., is in the market for brick machine, stiff mud, daily capacity 50,000; new or second-hand, in first-class condition.

Bridge Construction.—Board of Public Works, A. L. Thomas, chairman, Chattanooga, Tenn., will open bids January 9 for the erection of superstructure of a steel highway bridge, single span, 17 feet long, on 11th street. Specifications, general plans and blank forms for proposal furnished on application to Robert Hooke, city engineer. Certified check for \$500, payable to T. J. Gillespie, city treasurer, must accompany each bid. Usual rights reserved.

Building Materials.—M. E. Dundy, Lake Village, Ark., wants prices on building material for two-story office building 50x90 feet, of repress hydraulic brick, and costing \$9000.

Building Materials.—J. M. Brown, 2007 Jefferson avenue, Houston, Texas, or Port Arthur, Texas, wants prices on the following materials: f. o. b. cars or boat Port Arthur, Texas: 200,000 repressed brick for superstructure, 800,000 good hard building brick, 500 yards sand, 400 yards crushed stone, 400 barrels Portland cement, 75 tons Acme cement, 500 barrels lime, 200,000 feet lumber, four carloads doors, sash and frames, two carloads plastering laths, 38 tons wrought and cast steel and iron, etc.

Building Materials.—Curtis Baptist Church, Charles G. Dilworth, pastor, Augusta, Ga., wants suggestions as to building materials and equipment for \$15,000 church.

Cement.—See "Building Materials."

Cement.—Acme Cement Stone Co., J. Lee Hale, president and general manager, 819 Georgia avenue, Chattanooga, Tenn., is in the market for cement, etc. (See "Concrete-block Machinery.")

Chair Manufacturers.—E. H. White, vice-president Travora Manufacturing Co., Graham, N. C., wants to correspond with manufacturers of opera chairs.

Church Furniture.—Curtis Baptist Church, Charles G. Dilworth, pastor, Augusta, Ga., wants information regarding modern seating for \$15,000 church.

Concrete-block Machinery.—Acme Cement Stone Co., J. Lee Hale, president and general manager, 819 Georgia avenue, Chattanooga, Tenn., is in the market for complete equipment for concrete-block factory, including special machines for molding all kinds of cornice, etc., power and mixer, pneumatic tamper, cement and all kinds of preparations, cement-shingle machine, brick machine, etc.

Concrete Mixer.—See "Concrete-block Machinery."

Concrete Mixer.—C. H. Miller, commissioner, Smith Estate, Asheville, N. C., will be in the market in the early spring for a concrete mixer; capacity from 6 to 10 yards daily.

Cotton-mill Machinery.—Mallison Braided Cord Co., L. F. Edwards, president, Athens, Ga., will want full equipment for 5000-spindle cotton mill, including water-wheels for 40-foot fall, 400-kilowatt generator, several electric motors, etc.

Crematory.—Bids will be received until January 8 by the quartermaster, Fort Barrancas, Fla., for labor and materials necessary to construct at that post a garbage crematory building and furnish and install therein a garbage crematory. Further particulars can be obtained on application to Sam R. Jones, chief quartermaster, or to the quartermaster.

Distilling Apparatus.—The Arnold-Creager Company of New London, Ohio, wants addresses of manufacturers of turpentine stills.

Electrical Equipment.—R. S. & N. P. O'Neal, Gurdon, Ark., want prices on small dynamo.

Electrical Equipment.—W. E. Small Chair Co., Corinth, Miss., is in the market for a 100-light dynamo.

Electrical Equipment.—The Finchbaugh Manufacturing Co., York, Pa., wants to correspond with the manufacturers of the "Ever-Ready" dry-cell storage batteries.

Electrical Equipment.—Dr. T. S. Clyce, president Austin College, Sherman, Texas, wants estimates on electrical equipment for lighting college building.

Electrical Equipment.—Hughes & Wilcox, City Bank & Trust Co. Building, Mobile,

Ala., want bids within the next 60 days on 40-horse-power electrical equipment complete.

Electrical Machinery.—Mallison Braided Cord Co., L. F. Edwards, president, Athens, Ga., will want 400-kilowatt generator, several electric motors, water-wheels for 40-foot fall (developing 500 horse-power), etc., for 5000-spindle cotton mill.

Electric-light Plant.—W. T. Brightwell, Maxeys, Ga., is in the market for machinery and equipment necessary to generate electricity for 100 incandescent lights for country home and store; machinery to be operated by gasoline engine.

Electric-light Plant.—Russellville Manufacturing & Development Co., Russellville, Ala., wants estimates on electric-light plant; capacity 1000 lights.

Electric Wiring.—J. M. Brown, 2007 Jefferson avenue, Houston, Texas, or Port Arthur, Texas, wants prices on electric wiring three-story and one-story buildings.

Elevators.—J. M. Brown, 2007 Jefferson avenue, Houston, Texas, or Port Arthur, Texas, wants prices on elevators.

Engine.—"Automatic Engine," care of Manufacturers' Record, Baltimore, Md., wants to purchase quickly a 16x22-inch-cylinder (or thereabouts) four-valve automatic engine in good condition (Atlas or other good standard engine preferred).

Engine.—A. J. Bogarth, Garland, N. C., wants prices on 10-horse-power skidding engine.

Engine.—Leesville Manufacturing Co., Leesville, S. C., wants prices on 20 or 25-horse-power slide-valve engine.

Engine.—R. S. & N. P. O'Neal, Gurdon, Ark., want prices on small gasoline engine.

Engine.—J. J. Huckel, Ashland, Ala., wants a hot-air engine to run a small generator to generate electricity for 40 16-candle-power lights to light hotel and to operate pump to a well to fill a 5000-gallon tank 30 feet high.

Engine.—Robert Poyner, Franklin, Tenn., is in the market for a good one-horse-power horizontal oil or gasoline engine with spark and all necessary equipments; oil engine preferred; to be either new or second-hand, in good condition.

Engine.—D. E. Whitstone, Lake City, Fla., wants a gasoline engine for a boat 6 feet beam, 24 feet over all.

Engine.—W. E. Small Chair Co., Corinth, Miss., is in the market for a 15 to 20-horse-power gasoline engine.

Engines.—Fulton Bag and Cotton Mills, Atlanta, Ga., wants full information regarding engines to run on crude oil, such as is customarily had from the Louisiana and Texas oil fields; also on oil burners for use in connection with boilers where steam is to be used.

Engine and Boiler.—James A. Dezell, Mt. Pleasant, Fla., wants prices on 50-horse-power automatic engine and 60-horse-power tubular boiler; new or second-hand, in good condition.

Engine and Boiler.—Navidad Rice Co., Bernard Brown, president, Houston, Texas, is in the market for one Corliss engine, size 18x36 or thereabouts; one high-pressure tubular boiler, size 72x15; second-hand, in good condition. (See "Pumping Plant.")

Engine and Boiler.—Macon Brick Co., 353 3d street, Macon, Ga., is in the market for a good second-hand engine and boiler, 100 to 125 horse-power.

Engine and Boiler.—J. C. Hollingsworth, Mt. Airy, N. C., is in the market for 30 to 40-horse-power engine and boiler. (See "Planing Mill.")

Engine and Boilers.—Samson Manufacturing Co., Samson, Ala., is in the market for one 65-horse-power side-crank engine and two 80-horse-power boilers.

Fireproof Shutters.—Case Manufacturing Co., Parkersburg, W. Va., wants prices on fireproof shutters.

Furniture.—Dr. T. S. Clyce, president Austin College, Sherman, Texas, wants estimates on kitchen and dining-room furnishings for college.

Furniture.—Board of Supervisors of Marion county, Columbia, Miss., will open bids January 5 for furnishing courthouse in course of erection, and requests all manufacturers desiring to bid on same to be present with samples; L. C. Wellborn, clerk.

Gas Plant.—Town of Dothan, Ala., will open proposals January 1 for gas plant; two miles of mains to be laid with not less than six-inch pipe in 18 months. Certified check for \$500 is required with each proposal. Address R. W. Lisenby, town clerk.

Ginny Equipment.—Camilla Ginning Co., Camilla, Ga., will be in the market about January 1 for material and equipment for cotton gin.

Heating Apparatus.—James Knox Taylor, supervising architect, Treasury Department, Washington, D. C., will open bids December 28 for the low-pressure steam-heating apparatus, complete in place, in the United States postoffice at Battle Creek, Mich., in accordance with drawings and specifications, copies of which may be had at office of supervising architect or at the office of the superintendent, Battle Creek, Mich., at the discretion of the supervising architect.

Heating Apparatus.—Dr. T. S. Clyce, president Austin College, Sherman, Texas, wants estimates on heating plant.

Heating Apparatus.—Curtis Baptist Church, Charles G. Dilworth, pastor, Augusta, Ga., wants suggestions as to heating apparatus for church.

Hospital Equipment.—Dr. T. S. Clyce, president Austin College, Sherman, Texas, wants estimates on fixtures for small hospital for college.

Ironworking Machinery.—Dunn Machinery Co., 54 Marietta street, Atlanta, Ga., wants prices on ironworking machinery.

Irrigation Plant.—See "Pumping Plant."

Laundry Machinery.—Camilla Laundry & Ice Co., Camilla, Ga., will be in the market about January 1 for machinery and equipment for steam laundry.

Laundry Machinery.—J. F. Williams, Biloxi, Miss., wants complete equipment for a town of 15,000 population.

Laundry Machinery.—Dr. T. S. Clyce, president Austin College, Sherman, Texas, wants prices on machinery and equipment for laundry for college.

Levee Work.—Contract will be let for 200,000 yards of levee work near Greenville, Miss. Address J. K. Jeffries & Son, 1453 Southern avenue, Memphis, Tenn.

Levee Work.—Board of Commissioners, Orleans levee district, Charles T. Yenni, president, Room 15, Masonic Temple, New Orleans, La., will open bids December 15 for the enlargement and revetment of the Canal Carondelet levee, on the east bank, from Liberty to Galvez street; length about 3000 feet; contents, about 3000 cubic yards of earth; lumber, about 145,000 feet B. M.; deposit, \$100; bond, \$2500. Plans, specifications, bidders' blanks and full information furnished on application. Usual rights reserved; T. J. Duggan, secretary.

Lighting.—Curtis Baptist Church, Charles G. Dilworth, pastor, Augusta, Ga., wants suggestions as to lighting church.

Logging Equipment.—James A. Dezell, Mt. Pleasant, Fla., is in the market for some practical device to haul 2,000,000 feet of logs two and one-half miles, level, high pine country.

Lumber.—The Isthmian Canal Commission, Washington, D. C., will let the contract December 14 for furnishing 5,000,000 feet of yellow-pine lumber, siding, flooring and ceiling, and 200,000 cypress railroad cross-ties, for which bids were previously invited. This will include all kinds of lumber, all to be No. 1 long-leaf yellow pine, and shipments are to be made to Colon, the Atlantic port of Panama, or La Boca, the Pacific port. Specifications and blanks are obtainable from the offices of S. E. Redfern, assistant purchasing agent; offices in the Custom-house, New Orleans.

Lumber.—C. P. E. Burgwyn, chief engineer Richmond & Chesapeake Bay Railway Co., 519 Mutual Building, Richmond, Va., will receive bids until December 26 for the delivery of about 50,000 cross-ties or fractional parts thereof. Specifications and further information will be furnished on application.

Machine Tools.—Valdosta Foundry & Machine Co., Valdosta, Ga., is in the market for a second-hand lathe with about 30-inch swing, 20-foot bed; wants nothing but a standard, up-to-date lathe.

Manufacturers.—John Holcombe Quill, Pollock Building, Mobile, Ala., is prepared to correspond with manufacturers relative to representing them in the South.

Marine Engine.—See "Engine."

Mill Supplies.—Dunn Machinery Co., 54 Marietta street, Atlanta, Ga., wants prices on mill supplies.

Naval Stores.—Bids will be received until December 28 at the office of D. W. Ross, general purchasing agent, Isthmian Canal Commission, Washington, D. C., for paints, oils, white lead, white zinc, turpentine, shellacs, varnish, drier, wood filler, grain alcohol, putty, glue, pumice-stone, paint brushes, timber hooks and dollies, bar iron, faucets, bung-borers, etc. Blanks and full information may be obtained at office of general purchasing agent or office of the assistant purchasing agents, 24 State street, New York; Custom-house, New Orleans, La.; 36 New Montgomery street, San Francisco, Cal., and

410 Chamber of Commerce Building, Tacoma, Wash.; also from chief quartermaster, Department of the Lakes, Chicago, and the Commercial Club, Mobile, Ala.

Oil Burners.—See "Engines."

Ore-washing Machinery.—E. W. Bedinger, Jr., Anchorage, Ky., wants addresses of manufacturers of ore-washing outfits.

Organ.—Curtis Baptist Church, Charles G. Dilworth, pastor, Augusta, Ga., will want a pipe organ costing about \$1500.

Paper-pulp Machinery.—Oklahoma Gin Co., Box 729, Oklahoma City, O. T., wants addresses of manufacturers of machinery for making paper pulp.

Paving.—R. S. Williams, city treasurer, Montgomery, Ala., will open bids December 18 for paving and otherwise improving various sidewalks as per specifications on file in office of city engineer; paving to be done with Schillinger or hexagon blocks. All bids to set out separately the price thereon for imported and domestic brands of cement specified. Certified check for \$250 must accompany each bid. Usual rights reserved.

Pipe.—Dunn Machinery Co., 54 Marietta street, Atlanta, Ga., wants prices on pipe and fittings.

Piping.—See "Pumping Plant."

Piping.—A. J. Bogarth, Garland, N. C., wants prices on dry-kiln pipes (one-inch iron).

Piping.—Santos S. Rubira, president Electric Lighting Co., Mobile, Ala., will need gas-piping from 2 to 14 inches diameter; also supply main, 12 inches diameter and a mile in extent.

Planing Mill.—J. C. Hollingsworth, Mt. Airy, N. C., is in the market for complete equipment for planing mill, including planer, molder, resaw, rip and trim saws, 30 to 40-horse-power engine and boiler; new or second-hand in good condition.

Plumbing.—Dr. T. S. Clyce, president Austin College, Sherman, Texas, wants prices on fixtures for baths and closets.

Pumping Plant.—Navidad Rice Co., Bernard Brown, president, Houston, Texas, is in the market for one Corliss engine, size 18x36 or thereabouts; one high-pressure tubular boiler, size 72x15; one 18 or 20-inch double-suction high-lift pump to lift water 45 feet; one 150-horse-power feed-water heater and purifier; one boiler-feed pump, size 6x4x6; one oil-burner pump, size 3x2x3; also pipe, valves, fittings, etc.; second-hand, in good condition.

Railroad Construction.—MacArthur Bros. Company will let contract for grading and masonry on 108 miles of Tidewater and Deep-water railways, extending from Roanoke, Va., 108 miles west into West Virginia; very heavy rock work; line nearly paralleling Norfolk & Western Railroad. Consists of a number of short and long tunnels, heavy steam and shovel work and many miles of good station work. The heavy work will last two years. Plans, profiles and instructions for seeing the work can be obtained at office, 301-302 Terry Building, Roanoke, Va., where A. F. MacArthur will be prepared to meet contractors. Profiles may be seen and further information obtained from the company's general office, 810 Fisher Building, Chicago, Ill., or from New York office, Hanover Bank Building. They may also be had from the following: A. B. Koenig, 612 Walnut street, St. Louis, Mo.; Atwood's Labor Agency, 303 South 12th street, Omaha, Neb.; 902 Union avenue, Kansas City, Mo.; 1711 Market street, Denver, Col.; 131 25th street, Ogden, Utah; Miller & Nichols, 8 South 1st street, Minneapolis, Minn., and 3d street, St. Paul, Minn.; Northwestern Labor Agency, Duluth, Minn.

Railway Construction.—Subcontractors wanted on Stockdale-Cuero extension of the G. H. & S. A. Rwy. All-winter job for 40 to 50 good teams. Twelve cents for earth. Transportation for outfits and men between El Paso and Houston and intermediate points on line of G. H. & S. A., including branch to Stockdale. Address W. O. Robertson, chief contractor, Stockdale, Texas.

Railway Equipment.—J. H. Macleary, Suffolk, Va., is in the market for two 17 or 15-ton geared engines for 36-inch-gauge of track. State price f. o. b. Richmond, Va., with full specifications, etc.

Roofing.—James A. Dezell, Mt. Pleasant, Fla., wants prices on 35 squares iron roofing.

Saw-mill Equipment.—Gregg Ezell, Gholsonville, Va., wants to purchase machinery and equipment complete for saw-mill.

Saw-mill Machinery.—James A. Dezell, Mt. Pleasant, Fla., wants prices on 2000-pound balance-wheel for saw mandrel and gauge roller for saw-mill; new or second-hand, in good condition.

Sewerage.—Henry B. F. Macfarland, Henry L. West, John Biddle, Commissioners, Washington, D. C., will receive bids until January

15 for constructing 9500 feet (more or less) of trunk sewer, 8'4"x9'4", the same being a portion of the sewage-disposal outfall system in the District of Columbia. Specifications and forms of proposal may be obtained on application.

Seating.—See "Church Furniture."

Sewerage System.—Board of Improvement District No. 5, A. W. Stevens, chairman, Texarkana, Ark., will open bids January 19 for the construction of a system of pipe sewers for Improvement District No. 5. The following are the approximate quantities of pipe: 11,385 feet of 6-inch pipe, 2424 feet of 8-inch pipe, 2552 feet 10-inch pipe, 4582 feet 12-inch pipe. Profiles and specifications on file and may be seen at office of Frank S. Quinn, attorney, Room 218, Texarkana Trust Co. Building; also at office of J. E. Daugherty, engineer, Texarkana, Texas. Certified check for \$500 must accompany each bid. Usual rights reserved.

Smelters.—W. B. Smith, Illinois Life Building, Louisville, Ky., wants the addresses of zinc smelters that can use 40 per cent. ore to the extent of 200 tons per day.

Stave and Heading Machinery.—Keith Lumber Co., J. F. Keith, president, Beaumont, Texas, is in the market for machinery for making barrel staves for loose barrels, also heading.

Steam Shovels.—E. W. Hedinger, Jr., Anchorage, Ky., wants addresses of manufacturers of steam shovels.

Steamboat Supplies.—Proposals for steamboat supplies for Baltimore, Md., will be received until 11 A. M. December 29 at the office of Harry F. Hooper, city register, City Hall. Specifications may be obtained from Harbor Board, office City Hall; N. H. Hutton, harbor engineer.

Steel Tank.—Yossburg Lithia Springs Co., Gulfport, Miss., wants to buy a 1500-gallon-capacity porcelain-lined steel tank.

Water Heater.—See "Pumping Plant."

Water-wheels.—Mallison Braided Cord Co., L. F. Edwards, president, Athens, Ga., will want water-wheels for 40-foot fall to develop 500 horse-power. (See "Electrical Machinery" and "Cotton-mill Machinery.")

Water-works Equipment.—R. S. Williams, city treasurer, Montgomery, Ala., will open bids December 22 for the construction of a covered concrete reservoir, together with the necessary 20-inch pipe connections, also for furnishing and installing steam piping for city water-works, according to plans and specifications on file in the office of city engineer. Usual rights reserved.

Wire-weaving Machinery.—Eureka Fish Net Co., Griffin, Ga., wants addresses of manufacturers of machinery for making or weaving poultry netting.

Woodworking Machinery.—A. J. Bogarth, Garland, N. C., wants prices on board edger.

Woodworking Machinery.—See "Planing Mill."

Woodworking Machinery.—Samson Manufacturing Co., Samson, Ala., is in the market for one planing mill and two-saw edger.

Woodworking Machinery.—See "Saw-mill Equipment."

Woodworking Machinery.—See "Stave and Heading Machinery."

Woodworking Machinery.—A. E. Davis, Salisbury, N. C., wants prices on machinery for dressing lumber.

Woodworking Machinery.—High Point Hardwood Manufacturing Co., High Point, N. C., is in the market for a new or second-hand 9 or 10-inch molder and 12-inch-circle resaw.

MEXICO.

Apartment-house.—C. B. Myers of Tampico, State of Tamaulipas, will erect a two-story apartment-house in Tampico.

Brewery and Ice Plant.—J. Arch Gamel and John C. Gamel of the Queretaro Bottling Works have obtained concessions for the establishment of brewery and ice plant in Queretaro, State of Queretaro, at a cost of \$20,000.

Electric-power Plant.—Stallworth Bros., Parral, State of Chihuahua, are preparing plans for the erection of a large electric-power plant to be located between Parral and Minas Nuevas. A company is now being formed with a capital stock of \$10,000,000 to operate the plant.

Electric-power Plant.—L. del Paso, Mutual Building, City of Mexico, has applied for concession to use the waters of tributaries of the Fuerte river in the States of Sonora and Sinaloa for electric-power plant.

Sanitary Improvements.—The city of Parral, State of Chihuahua, has issued bonds for \$300,000 to cover the construction of sanitary works. Address The Mayor.

Sugar Mill, etc.—The Rio Tamasopo Sugar Co., Milwaukee, Wis., U. S. A., will erect sugar mill, saw-mill and coffee mill on its plantation near Tampico, State of Tamaulipas. Herbert B. Tanner is president, and Harry C. Tanner, secretary of the company.

Railways.

Steam Railroad.—Reported that A. C. Spencer has been granted a concession in the State of Queretaro to build a railroad from El Pueblito to San Isidro, about 30 kilometers, standard-gauge. Others interested are Eng. Adolfo de la Isla, Alfonso Veraza and Jose M. Calvo.

Steam Railroad.—The charter of the Panueta Mountain & Monclova Railroad Co. has been filed at Austin, Texas. Its capital is \$200,000, and its purpose is to build a railroad from the Panueta mines to Monclova, Mexico, 45 miles. The principal office is at San Antonio, Texas. The incorporators are Otto Wahrmond, Otto Koehler, S. G. Newton, John J. Stevens, A. L. Tuttle, Albert Steves, Carter Sommers, all of San Antonio; Joseph Griessecheck and Henry Griessecheck of St. Louis and N. M. Berazlene of Monterey, Mexico.

the spirit which prevades the South today, that not a few of the industrial undertakings which are already under way and those which are being started almost daily are directed and controlled by graduates of Southern technical collegiate institutions. This applies largely to chemistry, electricity and engineering lines generally. The polytechnic institution in Atlanta would do credit to any city. This circumstance mirrors the determination of the South in its purpose to develop itself.

First impressions of a stranger visiting Atlanta, with its steel and stone skyscrapers, its prosperous and energetic citizenship, are that he has struck a Northern town in a Southern section, a sort of miniature New York or Chicago. But, as a matter of fact, Northern citizenship in Atlanta, while increasing, cannot be said to be over 6 per cent. of its 120,000 population, the remaining 94 per cent. being Southern-born. In this latter there is abundant material of high-class order, brainy Americans of the most progressive type, whose ability is destined to place Atlanta on a still higher commercial pinnacle. It is this class which has taken the initiative in developing mineral possibilities in the South—coal, iron, copper, lead, petroleum, mica, asbestos, marble, ruby, serpentine, corundum—not to speak of agricultural products, such as cotton, cottonseed and the many manufactured materials of which it is the base, or the wide timber lands, embracing oak, chestnut, pine, poplar, ash, elm, sycamore and birch.

The civic pride of Atlanta in the matter of the forthcoming exposition in 1910 is again to be put to the test, and there is every indication, even at this early date, that it will not be found wanting. Atlanta's scope for the future, the possibilities which the South presents in the development of mining, agricultural and industrial projects of every character, will be reflected in the 1910 exposition to the edification and instruction of the world and the material benefit of the South itself. I make no rash prediction in saying that the exposition of 1910 will be far ahead of any former expositions held in Atlanta, and in scope and far-reaching results will surpass those of Buffalo and Portland.

Manager Whaley of the Southern branch at Atlanta of the John A. Roebling's Sons Company of Trenton, N. J., looks upon the business situation in the South at present as being on a firmer basis than at any previous time. Mr. Whaley has his hands full in guiding and attending to the requirements of the rapidly-developing business of the branch of which he is manager.

Montgomery.

[Special Cor. Manufacturers' Record.]
Montgomery, Ala., December 9.

The Lum Machinery Co., George E. Lum, president, and M. F. Boone, manager, has been in existence 25 years. It carries a line of machinery and mill supplies covering such material as piping, fittings, valves, Corliss engines, saw-mill machinery, complete steam plants, etc., the stock on hand representing an investment of \$40,000. The company is the Southern agent for the Atlas Engine Works of Indianapolis, Ind., and for the Barry Saw Co., also of Indianapolis. Manager Boone reports a good and steadily-improving demand for all classes of material in his line.

The Kennedy Company, dealer in mixed paints, oils and glass, is enjoying prosperous trade conditions. It handles a fine line of paints, oils, glass, together with cabinet mantels, tiles and grates, builders' hardware, wallpaper and artists' materials. This enterprise was founded in 1854, and is today conducted on an extensive scale by Messrs. I. M. Kennedy and A. M. Kennedy, father and son, respectively. A line of stock is carried valued at \$45,000.

The Hartley Boiler Works reports business exceptionally good for this season. The company has a large line of boilers of all dimensions, tanks, smokestacks, and does an extensive business in sheet-iron work. Its large shops are now operating at full capacity.

Messrs. M. Sabel & Sons have long been known as an important Southern house in their line—railway equipment and second-hand machinery of every description. They are also large dealers in rails, standard and narrow gauge; locomotives (of which they now have a number for sale), scrap iron and foundry and machine-shop supplies generally. A steady and growing business characterizes the operations of the firm this year.

The West Electric Co. is experiencing the fact that the use of electricity and electrical equipment generally in Montgomery and surrounding country is becoming more widely known and appreciated. Just now the company is kept busy in keeping up with the increasing demand for everything electrical. The high efficiency of the work executed by the West Electric Co. makes its services in constant demand. It is worth while stating

that this company claims to be the only one in Montgomery or that section of the South which manufactures electric and combination chandeliers. The West machine-shop equipment and stock is said to represent an investment of \$20,000.

The Alabama Machinery & Supply Co., J. C. Fischesser, manager, is one of the important houses in its line. Its business has increased largely during the past six months, a gain of 50 per cent. being shown by the books as compared with 1904. The Alabama Machinery & Supply Co. does an extensive business in roofing materials, being the sole agent in Montgomery territory for Messrs. J. A. & W. Bird & Co. of Boston. In this well-known brand of roofing, "Flintkote," the company ships several carloads at a single consignment, and the trade-mark of a boy carrying a roll of roofing is a conspicuous feature in the department of the house devoted to this line. The extensive stock of mill supplies of every character, machinery, tools, shafting, pulleys, etc., carried by the Alabama Company is said to represent an investment of \$10,000.

Mobile.

[Special Cor. Manufacturers' Record.]
Mobile, Ala., December 11.

In referring to the general progress of Mobile in recent years, Mr. J. J. McMahon says:

"You will note that our commerce for November, or rather our exports for that month, aggregated about \$3,500,000, throwing into insignificance past records. From a municipal standpoint we are progressing rapidly. About a million dollars' worth of paving has been laid in the last three years, and not many years ago we put in a complete system of sewers and water supply. Our present mayor, Hon. Pat. J. Lyons, is intimately and largely identified with the commercial interests of the city, a promoter of new industries and a strong factor in the successful conduct of many of those already established. This, notwithstanding the fact that in his boyhood he was turned out on the world through the death of his father to shift for himself as best he might, and with only a limited education. He is naturally endowed with business acumen and executive ability, and when he shall have completed his present term as mayor there is no doubt that Mobile will have advanced a long distance on the road of prosperity and expansion."

The Southern Supply Co. and the Young Hardware Co. will consolidate on January 1 as the Southern Hardware & Supply Co. The capital invested is \$300,000. The new company will carry a complete line of railway and mill supplies, and its management will be under H. Young, who is now president of the Young Hardware Co. In the new firm Mr. Young assumes the position of president and general manager. The firm will employ 15 men, exclusive of clerical help.

The Mobile Foundry Co. is extending its large premises, practically doubling former capacity. This enterprise was founded 20 years ago by John H. Mahler, its present president, and from a small beginning it has grown to its present importance. It has a force of 65 men, the plant running full time. H. W. Ollinger, vice-president, like President Mahler, is a practical man with long and diversified experience in machine-shop and boiler-iron work. They have invested \$50,000, and because of their excellent location and skill in their chosen field look forward to the steady growth of their business. The Mobile Foundry Co. repairs boilers, makes castings and forgings of every description, and carries on an extensive lathe and general machine-shop work.

The Gulf Electric Co. is a comparatively new organization, having been in existence about two years. It has made surprising progress, however, in that limited period, and under the management of C. B. Rogers an era of prosperity has commenced in the history of the company which taxes the working force's capacity to keep up with orders. The employees number 40 in all, including two outside working forces, which are kept constantly occupied installing small electric power and illuminating plants in saw-mills, oil mills and other manufacturing plants in Mobile and surrounding district. Motors, electrical equipment and stock in hand of the company represent an investment of \$30,000.

The McMillan Bros. Company, branch of McMillan Bros. of Savannah, Ga.; Jacksonville, Fla., and Fayetteville, N. C., has removed its entire plant to St. Anthony street. Increase of business rendered the change necessary, and just now it would appear from the number of contracts in hand for seamless turbine stills and copper retorts and equipment generally that the new plant is none too large. The buildings cover a space of 120x120 feet, the ground, shop, equipment,

SOUTHERN CITY INDUSTRIAL NOTES

[Special Correspondence Manufacturers' Record.]

Atlanta, Ga., December 12.

The question is frequently asked, "What is it that has given Atlanta its present eminent position as a commercial center in the South?" The answer will make manifest why a magnificent future is assured Atlanta and the entire South. It cannot be said to be solely a question of the indomitable spirit of Atlantans, who know not the meaning of the word "fail," although this is an important factor. A combination of conditions, material and industrial, working as a harmonious whole, civic pride, together with the knowledge and ability to turn to good account the lavish treasures which nature has bestowed in a productive region of which Atlanta is one of the great distributing centers, may be said to be the secret of this municipality's wonderful growth.

Atlanta's topographical position has directly contributed toward making it the railroad and commercial center of the Southeast. The conditions which made Atlanta a strategic point of the greatest importance during the Civil War have in like manner, although on a relatively different and more widely emphasized scale, brought about and made possible present and future industrial development.

Secretary Cooper of the Atlanta Chamber of Commerce says: "As the metropolis of the Piedmont region, Atlanta will profit by the great stimulus to trade and industry which will come from the opening of the Panama canal. There are already large exports of cotton goods to China from Georgia and the Carolinas, and this trade will grow

rapidly when the short route to the Pacific is opened."

Everything goes to prove the correctness of Secretary Cooper's prediction in this respect.

Anticipating trade developments, which are expected to be on an immense scale, and with regard to manufacturing plants especially, railroad companies are extending their terminal facilities in Atlanta, their freight-houses and offices at a cost of many millions of dollars, and on a scale which leaves no doubt of their conception of the future industrial development of this city and surrounding section.

As an evidence of the attention which Atlanta is receiving as a manufacturing and distributing center, it is worthy of note that within the past week one of the railroad companies with connections in Atlanta has declined seven propositions for the purchase of sites for manufacturing plants on its track system in the vicinity of the city, and for the reason that no site was available, all having been sold for similar purposes.

It is not generally known that Atlanta is the third insurance center of the United States, and easily the first in this section. Not only is Atlanta headquarters for many of the great national industrial corporations, but, as already intimated, every leading life and limited-liability insurance organization in the country is represented here, and it may be opportune to note that all without exception report unprecedently prosperous conditions.

It is significant, while being illustrative of

machinery and structures being owned by the company. Exclusive of clerical force, there are 20 skilled coppersmiths employed, all under the management of R. W. Sutherland, who has had many years' experience in his line. Mr. Sutherland has recently completed a number of important contracts, including a large condensing plant for the Robertsdale (Ala.) Wood Product Co. A comparatively new feature in this business is the increasing demand for refining stills for destructive distillation product from wood. This system converts a greasy, objectionable-looking product to one of a pure water-white color. Repair work of stills, retorts and turpentine-plant equipment is quite an item in the company's business.

Messrs. Maddox & Eastburn, stone and marble workers, report prosperous times and satisfactory conditions, except the difficulty of obtaining reliable skilled and unskilled help. They employ 25 trained stonecutters and 15 laborers, and the high character of the work they turn out under the personal supervision of Mr. Maddox bespeaks the character of the employees with regard to efficiency. The firm started five years ago, and today has a complete plant equipped with surfacing machines, drills, polishing machines, rubbing-beds and pneumatic tools. The latter are from the Chicago (Ill.) Pneumatic Tool Co. Some of Mobile's largest structures of recent erection are of granite and stone work produced by Maddox & Eastburn. Among them is the Cawthorn Hotel, First National Bank and People's Bank.

The Home Industry Iron Works was founded 45 years ago by its present president, A. Kling. The plant is large and commodious, having a complete machine shop, foundry and boiler-repairing outfit. It employs 200 men, under the personal direction of General Manager I. S. Bogue, a mechanical engineer of long and varied experience. Features of the firm's line consist in lathe-work of every character, marine-engine manufactures of all capacities, saw-mill repairs, etc. It is stated the lathe and machine equipment represents an investment of \$100,000.

Mr. Wm. P. Lee, 67 St. Michael street, is a practical roofer, whose work is in demand by Mobile builders and contractors. Mr. Lee commenced business single-handed four years ago, and today he employs a force of 20 skilled roofers, notwithstanding which he is at this time several weeks behind in his engagements. Among recent large contracts completed by Mr. Lee was roofing the Mobile & Ohio Railroad fruit sheds, in all 1000 squares. Mr. Lee uses largely in his roofing contracts the material of the Barrett Manufacturing Co. of Philadelphia, obtaining his supplies from the nearest factory at Ensley, Ala. In asphalt flooring and walks, tin and shingle roof painting and in roofing supplies generally Mr. Lee has a large connection in Mobile and surrounding territory.

The Cunningham Hardware Co. of Mobile was founded 40 years ago by James Cunningham, father of the principal of the present firm, Chas. A. Cunningham. The latter is president and general manager, and in the handling of 55 indoor salesmen and clerical force and 10 travelling salesmen he has ample occupation for his activities. The large stores, shops and offices of the company are located in the center of Mobile's business district, and among the goods handled may be mentioned hardware of every description, cutlery, bar and sheet iron, guns and rifles, stores' tin and wooden ware, agricultural implements, machinery and mill supplies, mixed paints and oils. An investment of \$120,000 is represented in stock.

Messrs. McCray & Slater, architects, Mobile, have moved into their new quarters, 106 Pollock Building. As another evidence of the surprising growth of Mobile, this firm has been in existence only a year, yet, notwithstanding unceasing work, is behind in contract engagements. They have a number of large structures now under way, including a theater, a church, office buildings and residences, with a number in prospect.

Among the Mobile general contractors and builders who have had a varied experience is I. F. Stephens, 67 St. Francis street. Mr. Stephens began business in 1867 in Chicago, where he remained 27 years and left many evidences of his profession. Among the latter is McVicar's Theater, twice rebuilt by Mr. Stephens as a result of fire; New England Congregational Church, Ada Street Methodist Church, Church of the Epiphany, Halstead Street Opera-House, rebuilding of Hannibal Hospital; interior work in Palmer House, and refitting interior of Mandel Bros.' State-street store at a cost of \$25,000. Mr. Stephens has recently completed in Mobile the apartment-house of Dr. Harry Inge, the three upper stories of which are used as an annex to the Bienville Hotel. This fine structure was built, completed and ready for occupancy in less than four months from date of signing contract.

The New Orleans Roofing and Metal Works has recently established a branch in Mobile, with James C. Simpson as manager. This company does a large manufacturing business as well as being a jobber and importer of asphalt and tar roofing, while conductor piping, everything in sheet-metal work, tin-plate, Apollo galvanized and block roofing products and felt sheets are carried in stock.

Messrs. Rudolph Benz & Sons, architects and engineers, Masonic Building, report their draftsmen and clerical force working at full capacity to cope with many contracts. Among contracts recently completed and now being planned are the following: Plans, specifications and designs for \$10,000 warehouse for Adam Glass; new warehouse, six stories, for American Supply Co.; plans for \$10,000 residence for O. Ottenstein, contracts for material not yet having been let; residence of Joseph Jossen, completed at a cost of \$12,000, the material being brick and stone, and the steam-heating and plumbing being executed by Larry Leagley for Contractor E. E. Ward; county bridge which spans Dog river, a steel and wood structure 500 feet long by 20 broad; \$5000 residence of Wm. Reynolds, and plans and specifications for county jail and courthouse, which will cost \$200,000. This latter is the largest contract for architectural and engineering designs secured this season by Benz & Sons.

The Cypress Tank Co. has received a contract from P. H. Glatfelter, Spring River, Pa., for cypress tanks to cost \$4000.

Messrs. S. E. Dupree & Co., the well-known general contractors and builders, have purchased the interest of W. F. Ault, formerly a member of the firm. Mr. Dupree reports a decided increase in volume of business in his line, and like many other Mobilians, speaks confidently of Mobile's promising future.

Mr. J. T. Flock, specialist in building and repairing gasoline engines and automobiles, has recently secured a large shop at Michael and St. Joseph streets, one of the best locations for his line in the city. Mr. Flock is a mechanical engineer with many years of practical experience, with an investment of \$5000 in stock and mechanical equipment and six employees. He believes the outlook for furnishing automobiles, as well as gasoline engines for manufacturing and other purposes, is most satisfactory in Mobile.

The Electric Lighting Co. of Mobile, Ala., is doing much toward showing that Alabama is not behind in the matter of progress in the use of electricity for power and illuminating purposes. The well-equipped plant of this company, under the presidency of Santos S. Rubira, who is also the principal owner, with its large lighting capacity, everything being of the latest and best design in the matter of machinery, illustrates what can be accomplished in a combination of steam and electric-power plants for the generation of gas and electric illumination. The aggregate horse-power of steam engines and turbines is nearly 4000. The equipment in this respect consists of a 1000-horse-power Hoover, Owens & Rentschler (Hamilton, Ohio) engine of the tandem compound-condensing type; an Allis-Chalmers engine, 700 horse-power, also of the tandem compound-condensing design, together with a McIntosh & Seymour (Auburn, N. Y.) type of engine, 200 horse-power, similarly constructed with regard to tandem arrangement and compound condensing. An important feature of the mechanical outfit consists of a 500-kilowatt steam turbine of the Curtis design, made by the General Electric Co., Schenectady, N. Y. There has been recently added a 500-horse-power Williams engine, and further additions to meet the extraordinary demand for electric illumination in the city of Mobile are contemplated. An additional 1500 kilowatt is needed now, and the question of turbine or steam engine being decided upon for the generation of same is receiving the consideration of President Rubira and Superintendent Shaffner. Borings for three artesian wells for condensing are now in operation on the company's premises.

The boiler system is composed of the Sterling Consolidated Boiler Co. and Helme makes, the capacity amounting to 4000 horse-power. The Bulkley barometric condenser, Orange, N. J., is used throughout, and at this writing two new ones of that make, 12-inch and 18-inch, respectively, are being installed. The entire illuminating capacity of the plant is 3500 kilowatt, which, as already intimated, will be in the near future inadequate to meet Mobile's requirements. For this reason the additional electrical equipment referred to will be installed at an early date, as circumstances will permit. The electrical supply department of the company stock on hand represents an expenditure of \$30,000, while 32 men as a working force, including those engaged in the wire department, are needed to conduct this particular branch of the business.

The company's gas plant is equipped with United Gas Improvement Co.'s Lowe water-gas apparatus, of Philadelphia, together with turbine direct-coupled blower of the De Laval-D'Olier Engineering Co. make, Philadelphia. The retorts in use are of the latest design of same, regeneration benches, made by Parker Russell Mining & Manufacturing Co., St. Louis, Mo. A powerful hydraulic elevator for coal handling, of the Craig-Ridgway Company make, Coatesville, Pa., is also an important and valuable feature of the mechanical equipment. The purifying apparatus of the Choller system of self-revolving boxes, using oxide of iron, together with scrubbers, condensers and tar extractors, all of the make of the Kerr-Murray Manufacturing Co., Fort Wayne, Ind., are in operation in the company's gas plant. The entire plant is owned by the Electric Light Company, no outside interests of a financial nature being included. Superintendent

Shaffner goes on record as saying that there is more mileage of gas-piping per capita in Mobile than any other city in the United States. This piping system has been overhauled and a portion relaid, together with several miles of new piping added recently. The company has now decided to lay piping to the extent of eight additional miles in the several terminal directions. The piping needed will vary in size from 2 to 14 inches. In addition, there will be needed a supply-main piping system 12 inches in diameter, a mile in extent. The wonderful growth of Mobile is readily discernible in the rapid development of this concern. The personnel of the company is composed as follows: Santos S. Rubira, president and general manager; Henry W. Shields, secretary and treasurer, and Santos S. Rubira, Jr., assistant secretary and treasurer. Mr. Samuel S. Shaffner, an electrical engineer, is general superintendent. JOHN BANNON.

INDUSTRIAL NEWS OF INTEREST

Wants a Machinery Salesman.

The services of an experienced machinery and mill-supply salesman are wanted by one of the established enterprises of the South. Particulars regarding this opening can be obtained by addressing Box 858, Charleston, S. C.

An Established Business.

It is stated that an established and profitable commission and investment business in Atlanta can be purchased at a low price if purchased promptly. For information address P. O. Box 232, Atlanta, Ga.

A York Contract.

The York Manufacturing Co. of York, Pa., has secured contract from the Kelly-Jones Ice Co. of Gulfport, Miss., for a 35-ton ice-making machine and attachments. This plant is to be in operation by March 15 next.

Coal and Iron Mines.

Two operating coal mines and equipment, located on the Baltimore & Ohio and Chesapeake & Ohio railroads in West Virginia, and some high-grade iron properties are offered for sale by J. Singleton Diggs, Lynchburg, Va.

Structural-Steel Engine-House.

A structural-steel engine-house 100x50 feet and 50 feet high, with crane runway, will be built by the Cherry Valley Iron Co. at West Middlesex, Pa. The contract for the construction and erection of the building has been awarded to the Wm. B. Scalf & Sons Company of Pittsburgh, Pa.

Robert S. Clemons With Dodge & Day

An interesting announcement to the trade is contained in the statement that Robert S. Clemons, formerly of the Crocker-Wheeler Company of Amper, N. J., has become associated as a specialist in power-house construction with Messrs. Dodge & Day of Philadelphia, Pa.

Woodworking Plant Offered.

An established planing mill and cabinet shop located on the Southern Railway at Columbia is offered for sale by its owners. It is stated that a good demand exists for the output, and particulars regarding the opportunity to secure this plant can be obtained by writing Messrs. Thomas & Thomas, 1227 Washington street, Columbia, S. C.

Florida Lands and Timber.

Among various Florida properties offered at the present time are 6500 acres of land said to contain 4,000,000 feet of cypress timber, 2,000,000 feet of pine timber, orange groves, farm lands, houses, etc. It is said this is a good colony location. Further details can be obtained by addressing John E. Harris, St. Francis, Fla.

Southern Capital Offered.

Manufacturers needing capital for new manufacturing enterprises or to enlarge established plants in inland towns possessing railroad facilities are advised that Southern capital is seeking such opportunities. Details regarding a specified instance of this character can be obtained by addressing N. L. N. T., care of the Manufacturers' Record.

Tube and Iron Plant.

The entire plant, including buildings, machinery, improvements, etc., of the Alabama Tube & Iron Co. of Helena, Ala., will be offered for sale at public outcry on January 15. This property is now held by the Birmingham Trust & Savings Co. of Birmingham, which will forward a full description and specifications to applicants. The plant produces bar iron and wrought-iron pipe, the latter being the principal output.

Henry Vogt Is Busy.

The Henry Vogt Machine Co. of Louisville, Ky., manufacturer of ice and refrigeration machinery, boilers, etc., was never so busy as at this time, the mechanical and clerical forces being compelled to work extra hours every day. Mr. Heywood Cochran, Southern salesman of the company, is now making a tour of Alabama, Mississippi and Louisiana.

A Southern Order.

The Fred. W. Wolf Co., ice and refrigeration machinery builders, of Chicago, through its Southern sales agent and mechanical engineer, I. P. Williamson, has secured contract from the Phillip Schillinger Brewing Co. of Birmingham, Ala., for the erection of a 30-ton ice tank, together with equipment and general repairs of the ice machine now in the brewing plant.

Baker City Iron & Supply Co.

The Baker City Iron & Supply Co. of Baker City, Oregon, has been organized and succeeds the Baker City Engineering Works. The new company announces that it has a cash capital of \$25,000. It manufactures mining and milling machinery, sheet-iron work, hoisting engines, etc., besides being a general dealer in the line of equipment named and other similar products.

J. H. Quill, Manufacturers' Agent.

It is announced that John Holcombe Quill, manufacturers' agent, has established an office in Mobile, Ala., headquarters in the Pollock Building. Mr. Quill will deal in steel rails, track materials, steel plates, machine steel, sheet and bar iron, engines, boilers, saw-mills, cement, lime, etc. He is prepared to correspond with manufacturers who desire representation in the Southern States.

More Wells by Hughes.

Active demands for the drilling of wells for industrial and domestic use throughout the South are bringing more contracts to the Hughes Specialty Well Drilling Co. of Charleston, S. C. This company makes a specialty of drilling wells for any purpose, and it has just completed contracts for wells for the Chattahoochee Lumber Co. of Lela, Ga. There are two 100-foot wells, 4½ and 8 inches in diameter. If you want a well drilled, write to Hughes.

Inner Tubes and Shoes.

Do you have trouble with the repairs to your inner tubes and shoes? Many do because they send repair jobs to concerns not equipped to do the work. A cemented patch is only a makeshift. The Voorhees Rubber Manufacturing Co. is the manufacturer of tires and a general line of rubber goods, and is equipped with the knowledge, as well as the apparatus, to repair inner tubes and shoes of all kinds. Write the Voorhees Rubber Manufacturing Co. at 18 to 40 Bostwick avenue, Jersey City, N. J., for further facts.

Contracts for Plansifter Mills.

Many cereal mills throughout Maryland are being improved by the installation of modern machinery, and contracts for much of the required equipment has been obtained by the R. F. Starr Company of Baltimore, Md. This company's recent contracts included installation, through its milling expert, Jasper M. Jones, of Barnard & Lea's plansifter mills for the following millers: J. R. Baldwin of Baldwin, George H. Cameron of Walkers, George B. Cecil of Valley Lee, W. C. Palmatory of Centerville, M. R. Messinger of Federalburg and many others. All these equipments are giving entire satisfaction to their owners. The R. F. Starr Company acts as general mill builder and furnisher for flour and cornmeal mills and similar plants.

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Free Sites and Cheap Gas.

Among the sections in which inducements are offered to manufacturers to locate their plants is the Kansas gas belt. The low price at which gas can be obtained for lighting, power and heating purposes is one of the prime factors in ensuring the success of well-managed factories in the Kansas field, and to this is frequently added other inducements. Free sites are offered to manufacturers who will locate plants in New Albany, Kan. Full particulars regarding this proposition can be obtained from the Empire Oil Co. of Joplin, Mo.

Allen Riveting Machines.

The firm of John F. Allen, 370 Gerard avenue, New York, announces that the only agents authorized to sell the well-known Allen riveting machines are Joseph T. Ryerson & Sons, Scully Steel & Iron Co., Baldr Machinery Co., A. B. Bowman, Berger-Carter Company and the Fairbanks Company. In further reference to this John F. Allen says: "Other concerns at times claim to represent us. One concern has copied one of our 'riveters,' using the machine of one of our customers to take dimensions from, which tool is being imposed on prospective purchasers. We warn the trade to beware of such."

The S. H. Calkins Company.

The S. H. Calkins Company of Baltimore, dealer and contractor for all kinds of tiling, mosaic and terrazzo work, recently celebrated its fourth anniversary by moving into larger and more spacious quarters at 305 North Green street. Its new showrooms are admirably arranged, all classes of tiling and mosaic work being displayed in the finished product, so that one may obtain an exact idea of just what is offered. The success of this company has been most gratifying to its promoters, and from an humble beginning in local work it is now taking contracts in most of the principal cities of the East, its territory extending from Canada to Florida.

Leslie's Weaving Reeds.

Textile manufacturers who are on the lookout for improved devices tending to perfect their operation of textile machinery are advised to investigate the claims made regarding Leslie's perfect-weaving reeds. These reeds are used by the Gaffney Manufacturing Co., Gaffney, S. C.; Brookside Mills, Knoxville, Tenn.; Elk Mountain Cotton Mills, Asheville, N. C., and other leading textile mills that have found them to give desirable results. For fancy Jacquard and dobby weaving Leslie's elastic Dent reed is offered. Everything in reeds, slathers, beaming and chain beaming combs, etc., are included in the products of the company which makes the Leslie devices. This company is the Loom, Reed & Harness Co. of Charlotte, N. C. Write for details of the Leslie reeds and other specialties.

Continental Color & Chemical Co.

The Continental Color & Chemical Co. has been incorporated with the following directors: Messrs. Adolf Kuttroff, I. J. R. Muurling, Carl Pickhardt and William Diestel. Its management is vested in an executive committee consisting of Messrs. Adolf Kuttroff and I. J. R. Muurling. From the first of January, 1906, the company will have the exclusive sale in the United States of America and Canada of the products of the Badische Anilin and Soda Fabrik, Ludwigshafen a./R., and Farbenfabriken, vormals Friedr. Bayer & Co., Elberfeld, the business of Kuttroff, Pickhardt & Co. and the Farbenfabriken of Elberfeld Company being transferred to the new company. Branches will be conducted in Boston, Providence, Philadelphia, Chicago, Charlotte, N. C. and in Canada. The New York offices will be at 128 Duane street.

New Westinghouse Machinery.

The Westinghouse Electric & Manufacturing Co. has perfected a new line of three-phase core-type transformers for 60-cycle circuits. One of these transformers may be used where three-phase transformation is to be made, instead of two or three of the single-phase type. They are self-contained units of compact construction, and are generally easier to install and reduce the complexity of wiring between the transformer and the apparatus which it is to supply. The company has also put on the market a storage-battery charging receptacle having many advantageous features, among the more important being a swivel attachment which conforms the receptacle to standard steam-railway practice and allows the car or vehicle to start and pull out the cables without danger of breaking them or the contacts. The apparatus is adapted to both railway and automobile service, and has been adopted by the Pennsylvania Railroad for charging the batteries on its cars.

New Fireproof Frame and Sash.

The S. Keighley Metal Ceiling & Manufacturing Co. of Pittsburgh, Pa., states that since perfecting the construction of its "Phoenix" fireproof frame and sash it has been unable to keep up with the demand, and is contemplating some extensive improvements to its plant. Among large contracts on hand is the Baltimore & Ohio Office Building at Baltimore, a 13-story structure. The frames and sash are made of 20-ounce copper, and are glazed with polished-plate wireglass. The Keighley Company has contract for the metal frames and sash in a 10-story building for the Bell Telephone Co., and the frames and sash in a 12-story building for the Hartje Paper Co., Pittsburgh, Pa. It also has other large contracts in different parts of the country, notably in Buffalo and Rochester, N. Y. S. Keighley Company branch offices are at Nos. 15 and 17 West German street, Baltimore, Md.; 1335 F street N. W., Washington, D. C., and 560 Wythe avenue, Brooklyn, N. Y.

Pipe-Thawing Outfits.

The superiority of the electric current as a thermal agent is generally recognized, and its convenience and effectiveness have led to its utilization in thawing water pipes, gas mains, telephone conduits, etc. It is necessary that the apparatus for such purposes shall have a range in capacity adequate to cover all ordinary requirements, shall be easy to connect, moderate in price, portable and light in weight so as to be easily handled, to withstand rough usage, and insure protection from injury to the operator. Two outfits which meet these requirements have recently been placed on the market by the Westinghouse Electric & Manufacturing Co. of Pittsburgh. One of these is for heavy service, and comprises a specially-designed choke coil used in connection with the primaries of a standard transformer, and the other is for lighter service, such as thawing house piping, and consists of a transformer adapted for suitable secondary voltage adjustments, and is mounted in cast-iron top and bottom frames.

Industrial Advertising Managers Dine

The Technical Publicity Association, composed of the advertising managers of the machinery and electrical manufacturers east of Ohio, dined and held an open meeting at the Aldine Association in New York on December 8. Mr. George H. Gibson, a former secretary, made an address on "Lost Motion in Machinery Advertising," which was followed by an informal discussion. Among the enterprises represented were Ingersoll-Rand Drill Co., New York; Niles-Bement-Pond Company, New York; General Electric Co., Schenectady, N. Y.; Crocker-Wheeler Company, Amper, N. J.; Sprague Electric Co., New York; De La Vergne Machine Co., New York; John A. Roebling's Sons Company, Trenton, N. J.; M. H. Treadwell Company, New York; the Westinghouse Companies, Pittsburgh; New York Edison Co.; Yale & Towne Manufacturing Co., New York; American Woodworking Machinery Co., New York; B. F. Sturtevant Company, Boston; H. W. Johns-Manville Co., New York; Holophane Glass Co., and Sawyer-Man Electric Co., New York.

The Hayes Derails.

Derails are among the railroad devices which perform important functions on the railways of the United States as well as in other countries. Their value is well known to railroad employes and to progressive managers in every section. This class of track appliances has been given the attention of specialists in the design and manufacture of such equipment, and prominent in this direction is the Hayes Track Appliance Co. of Geneva, N. Y. The Hayes derails are in use on the Pennsylvania Railroad system, the New York Central lines, the Baltimore & Ohio Railroad, the Santa Fe system and others of lesser prominence. The Hayes lifting derail is for operation either in an interlocking plant or by pipe line from main-track switchstand or direct by switchstand. The pivot derail is for hand operation. These two derails have been largely used by discriminating buyers of railway equipment, and in practice have shown their general efficiency and ability to perform the work for which the manufacturer designed them. Some interesting illustrated leaflets showing the details of the Hayes derails have recently been issued. They should be given the attention of every buyer who needs derailing devices of approved form, and will be sent to applicants.

Electric Locomotives for Mines.

Electric mine haulage, considered from either the points of efficiency or economy, has so many advantages as compared to the older practice that probably the time is not far distant when any other method of mine haulage will be the exception. The Westing-

house Electric & Manufacturing Co. of Pittsburgh, Pa., is doing a large business in equipping mines with electric locomotives to replace the older forms of haulage, whether animal or mechanical. A recent contract closed by the company was with the Newport Mining Co., Ironton, Mich., for surface and underground electric haulage. This company will use electric locomotives the year around in the various levels underground for bringing the ore to the bottom of the shaft, and after the transportation season closes will use electric locomotives on the surface for hauling ore from the top of the shaft to the various stock piles for storage. For these purposes the company has ordered six four-ton Westinghouse mine locomotives. Electrical apparatus for the equipment of the necessary power stations will also be provided by the Westinghouse Company, consisting of a 150-kilowatt 250-volt generator direct connected to a Corliss engine of 130 R. P. M., and a three-panel switchboard, besides other auxiliary apparatus.

Towing the Dewey to Manila.

In addition to the facts mentioned last week regarding the two big wire hawsers (each 1200 feet long) to be used in towing the dry-dock Dewey to Manila, it may be mentioned that a most interesting feature of this unusual undertaking is the use of an automatic towing machine. This floating dry-dock contains 11,000 tons of steel, and it is evident that there will be a great strain upon the hawsers, especially in rough weather, and therefore the towing machine that will be used constitutes an equipment of much interest. It will take about five months' time to reach Manila, a distance of 13,000 miles from Sparrow's Point, Md., where the Dewey was built. The towing machine, as is well known to those versed in improved modern apparatus for marine work, automatically lengthens and shortens the tow line, thus preventing a breakage of the hawsers. The Shaw & Spigle steam towing machine is to be employed in towing the Dewey, and it is extremely interesting to refer to the fact that the American Ship Windlass Co. of Providence, R. I., manufactures the Shaw & Spigle outfits. The American Ship Windlass Co. has furnished its equipments to thousands of vessels in different parts of the world, and the more experience shipowners have with its improved devices the greater becomes the demand for them. Interesting literature is published by the company regarding the Shaw & Spigle apparatus as well as other marine inventions which have proven extremely satisfactory in actual practice.

TRADE LITERATURE.

To Prevent Fires.

Many a disastrous fire has resulted from not having at hand at its start some means to extinguish it. In a terse but convincing manner this is brought before the public in an attractive card entitled "What's the Use?" recently sent out by the Badger Fire Extinguisher Co. of Boston. This company manufactures Badger's fire extinguisher.

A Souvenir Pocketbook.

Buyers of machinery and mill supplies who have patronized or intend to purchase from the Shreveport Mill Supply Co. are advised that the company is distributing a souvenir pocketbook as a Christmas gift to its friends. This little article is of handy size for trousers or vest pocket, and is well arranged for holding notes and cards. It is made of leather, well bound, and is lettered in gold "Compliments of the Shreveport Mill Supply Co., Ltd., Shreveport, La."

Wood-Fiber Plaster.

Architects and builders have long sought a plastering material that would meet their requirements. This need is claimed to be fully met in the Blue Bell wood-fiber plaster which the Greensboro Wood Fiber Plaster Co. is manufacturing at Greensboro, N. C. This plaster is a substitute for common plaster, and its maker says it is meeting with the entire approval of discriminating buyers in its special field. It is fully described and its merits presented in a neat booklet which the above company is now issuing. Send for a copy.

"A B C" Disc Fans.

People who are interested in improved modern ventilating devices will find the miniature catalogue of "A B C" disc fans of value to them. The little book refers briefly to this well-known form of ventilating fan, manufactured in various types, as well as to engines, electric motors and some other of the different classes of mechanical equipment made by the American Blower Co., the well-known manufacturer of the "A B C" fans. Heating, drying and ventilating apparatus, mechanical-

cal-draft equipments, etc., are the company's specialties. Request the offices at Detroit, Mich., to send you a copy of miniature catalogue No. 67.

Do You Know Graphite?

If you do not know Graphite you should become acquainted with it. It is a publication which is distributed every month to set forth to interested parties the different forms of graphite and their respective uses. Its December number tells about bad axes and good grease, retouching points and pencils, steam and return pipes for heating systems, lubricating air and steam cylinders, a graphite lubricating device, feeding flake graphite alone, etc. These and other important subjects in connection with the numerous uses of graphite are treated of in Graphite. The Joseph Dixon Crucible Co. of Jersey City, N. J., sends the publication gratis to inquirers.

Story of a Roundhouse.

The Grand Trunk Railroad has recently erected a roundhouse and machine shop at Mimico, near Toronto, Canada. The structure is built according to the Kahn system of reinforced concrete. It contains 30 stalls, each 13 feet wide at the inner circle and 26 feet at the outer circle. Each stall is 82 feet long, divided into three sections, and carried on four columns. The entire structure is built of concrete, reinforced with Kahn trussed bars. A full description is seen in a rather neat illustrated pamphlet which has been issued by the owner of the Kahn system, the Trussed Concrete Steel Co. of Detroit, Mich. If you are interested in concrete construction, send for a copy.

Compressed-Air Displacement Pumps.

The pneumatic displacement pump is a modern, improved, efficient application of an old principle. It operates by the direct, positive displacement of a volume of liquid by air under pressure. The only essentials to successful operation are a complete and continuous submergence of the pump and an adequate supply of compressed air. It pumps water in any quantity, to any distance, against any head, from any number of sources. Its action is wholly independent of the nature or quality of the fluid pumped. The Ingersoll-Rand Company of 11 Broadway, New York, issues a little booklet to tell further facts about the compressed-air displacement pumps which it manufactures.

Myers Power Pumps.

Users of power pumps, dealers in this class of equipment and others who may be interested will find timely data in the latest catalogue and price-list of Messrs. F. E. Myers & Bro. of Ashland, Ohio. The publication shows horizontal and vertical power pumps, working heads, pumping jacks, counter-shafts, horse-powers, roller-feed pumps, irrigation cylinders, etc. The Myers name is known in every part of the world for the excellent qualities produced at the plant of the firm named, and from time to time such improvements are added to the various devices as are indicated by the necessities of purchasers everywhere. The Myers pumps are illustrated and described and the specifications as to size, capacity and other details accompanying this information will be found of considerable value to prospective buyers.

Safety Fire-Bucket Tank.

In factory buildings and other structures where water buckets are kept at hand ready for use in the case of incipient fires it is also worth while to make use of the safety fire-bucket tank which has been devised by the Safety Fire Extinguisher Co., Spalding Building, 29 West 42d street, New York. This equipment is made of heavy galvanized iron and lined to prevent rust. The tanks are lapped on the outside and have a hinge cover which closes down on a rubber packing so as to make the tank airtight and thus prevent evaporation. The handles of the buckets are weighted, so that when the top bucket is removed the handle of the next rises automatically. There are various other features which will also interest people who are disposed to have their fire-prevention equipments thoroughly up to date. Write the company for descriptive booklet.

The Cagney Miniature Railroads.

At nearly all amusement resorts and exhibitions the miniature railroad is in evidence. The patronage these little systems always attracts naturally leads the onlooker to say they must be money-makers for their owners. That they are profitable investments is stated by the Cagney Bros. Miniature Railroad Co., a corporation which makes a specialty of building locomotives, cars and other equipment for complete systems of miniature railways. There are also various industrial avenues in which the miniature railroad is of

value—for manufacturing, logging operations, etc. The Cagney equipments are demanded for this usage, and operators needing such equipments to effect economies at their plant are invited to write the company for details. The Cagney Bros. Company has general offices in Suite 1234-1235 A, No. 74 Broadway, New York. It issues descriptive literature of its offerings.

Horizontal Slab Milling Machines.

Managers of industrial plants which use milling machines will be interested in an illustrated pamphlet which has recently been issued by the Newton Machine Tool Works of Philadelphia, Pa. This pamphlet is devoted principally to horizontal slab milling machines of the most approved type. These machines are of one general design, varying in size from 30-inch to 72-inch, inclusive. Combined horizontal and vertical spindle milling machines, on which the spindles may be operated either independently or simultaneously, are also shown, together with smaller sizes of plain milling machines and some machines for special requirements. This company also manufactures a large line of vertical and duplex milling machines and vertical slabbing machines. Specifications for any machine that may be required are solicited, and detailed information concerning weights and prices will be furnished on application.

Drying Machinery and Presses.

Manufacturers to whom drying machinery and presses of modern design are useful will find data regarding the Biles equipments of value for their consideration. The facts are presented in a concise illustrated booklet now being distributed. This machinery has been invented not alone on theory, but also on practical and costly demonstrative experience, by which the maker has perfected the most effective and economical methods of extracting and evaporating moisture at the minimum cost of labor and fuel, with practically no loss of heat from radiation, and with a small cost for repairs. About January 1 the maker of Biles machinery will issue a pocket edition of drying machinery, presses, etc., together with a collection of useful information pertaining to the installation and maintenance of machinery, etc. Send your address to the Biles Dryer Co. of Louisville, Ky., for a copy. This is the company which builds the machinery referred to.

Users of Cochrane Heaters.

A list of names interesting to those who may contemplate the purchase of or installation of a feed-water heater is presented in a booklet now being distributed. This brochure tells about some of those who know the Cochrane heaters, and includes some of the most famous titles in the iron and steel, textile, ice and cold-storage, mining and smelting, cement, electric-light and power, electric railway, steam railway, water and gas, grain mill and various other industries. The prominence of these users, several thousand of them (handling all the way from 300 to 16,000 horse-power in big steam plants throughout the United States), is itself a tangible form of evidence in favor of the Cochrane feed-water heaters and purifiers. The use of these devices is stated to be a most important factor in the promotion of economy in any plant. The Harrison Safety Boiler Works of Philadelphia, Pa., is the manufacturer of the Cochrane devices, and is prepared to demonstrate its claims of practical economizing service.

Water Lifted by Compressed Air.

During recent years much progress has been made in the art of pumping water by compressed air. The Ingersoll-Sergeant Drill Co. has done pioneer work in this line, having been the first to employ Dr. Julius J. Pohl, who is said to be the original inventor of the "air lift." At first all systems for lifting water or liquids by compressed air were admitted to be extravagant, but with a large experience now behind us, and with marked improvements in air-compressor economy, the air lift has made valuable strides. It has been found that a properly installed air-lift system requires the attention of the engineer, who should, in the first place, specify a suitable compressor provided with automatic attachments, and he should design the air and water pipes to accomplish the best results. Each case should be treated by itself, and advice given in accordance with the conditions that exist in each well to be pumped. The Ingersoll-Sergeant Drill Co. has an experienced corps of engineers, and is prepared to furnish specifications and advice free of charge for systems to lift water by compressed air for municipal, manufacturing, irrigation or other supply. It has issued a special publication devoted to the subject. For a copy write the offices at 11 Broadway, New York.

Improved Pneumatic Tools.

Progressive managers of industrial plants are continually on the alert to investigate any device which looks to the saving of time and labor and which renders the finished product more uniform. Along these lines it may be safely said that the use of compressed air and pneumatic tools has proven a veritable boon to many a manufacturer. With this purpose in view the Chicago Pneumatic Tool Co. of Chicago is from time to time placing on the market new devices in the pneumatic-tool line which adapt themselves to many and varied industries. The company has recently sent out a pamphlet showing the use of these tools in the foundry and for the concrete-block industry. This pamphlet illustrates and describes the many ways in which the tools can be advantageously employed in these plants. It also gives some very interesting data concerning the manufacture of concrete blocks, explaining in detail how these blocks are made, in what proportions the concrete should be mixed to obtain the best results, and also gives a number of recipes for obtaining any coloring matter that may be desired to imitate the various natural stones.

A Year Book for 1906.

The Surety Saying Year Book of Proverbs and Comments for 1906 is an unusually attractive volume, being somewhat different from previous publications of its character. It is cloth bound, about 6x9 inches in size, and contains blank spaces for memoranda for every day in the coming year, and is further embellished with drawings and wise sayings gleaned from the best of today and yesterday. Many of the sayings refer to the subject of modern fidelity and guaranty methods which corporations have originated and offered to men in every walk of business, to firms and corporations, to bond employees and officers, to guarantee against loss by theft in any of its various forms, guarantee against business losses, etc. The Year Book mentioned is being distributed by the United States Fidelity & Guaranty Co. This well-known Baltimore corporation has met with unusual success in its chosen field, and confidently expects that this Year Book will meet with great favor among those who are interested in fidelity and guaranty bonds such as the United States Company issues. The company's offices are at Calvert and German streets, Baltimore, Md. John R. Bland is well known as the president and George H. Collis as secretary.

B. F. Sturtevant Engineering Series.

The B. F. Sturtevant Company, Boston, Mass., will hereafter issue most of its publications periodically under the title Sturtevant Engineering Series. Each individual bulletin will treat of some particular product or its application. The series will also include reprints of pertinent articles or technical papers. All publications will be issued in uniform style and size suitable for binding consecutively or in allied groups. By this means the Sturtevant literature will be kept up to date, and immediate presentation will be made of new designs or typical applications in a form which will be of the greatest service. Bulletin No. 125, the first of this series, has just been published. It describes in detail the line of automatic vertical engines manufactured by the B. F. Sturtevant Company. These range from 5"x5" to 12"x12", are entirely enclosed, and all bearings are provided with positive forced lubrication under 15 pounds pressure. It is claimed this method has proved greatly superior to older splashing devices, and is not to be confounded with oil-pumping systems in which the oil is only lifted into a reservoir, from which it merely flows to the bearings. Those engines primarily designed to meet the exacting requirements of dynamo-driving are capable of continuous operation without skilled attention, and represent the highest standard of material, workmanship and efficiency.

The Clinton Chronicle.

The last few months have witnessed the erection of a large number of reinforced-concrete buildings. Of the various systems of reinforcing the "system with the continuous bond" has been largely used. Some of the most costly and largest factory buildings in the country have been erected on that system, and its utility and adaptability is now an established fact with architects, contractors and building owners. The Clinton Chronicle is a publication which appears every now and then to chronicle the accomplishments of this system—the Clinton fireproofing system. The current number for November describes and illustrates the new power-house of the Baltimore (Md.) Electric Co. This was selected because of the variety and interest of the features in its construction. The plant, which is entirely fire-

proof, covers an area of approximately 100x250 feet, and rises to a height of 70 feet above the main floor, every foot of this space being utilized to the best advantage. The full description will interest, and copies of the Chronicle can be obtained on application to the Clinton Wire Cloth Co. of Clinton, Mass. This company controls the Clinton system. Its fireproofing department is at 150 Nassau street, New York, Albert Oliver being in charge. Reinforced-concrete piles are also given attention in the Chronicle. The merit of such piles should be evident to the thinking man.

Exceptional Views of New York.

Nearly 300 years ago civilization first reached the island of Manhattan. Today the metropolis of the new world looks upon both the old and the new as tributary to its financial power and commercial activities. The great city of New York appeals to the pride of every American, and few neglect an opportunity to visit it. There have been many pictures published of scenes in and around New York city and its sister municipalities, but none can be entirely effective in enabling one who has not visited New York to imagine clearly the various locations, the appearance of the many important buildings and streets and the immensity of the bridges completed or in course of construction. A publication which is effective is King's Views of New York, containing about 400 illustrations, all obtained from photographs, which are entirely clear and convey an almost perfect idea of the appearance of the great metropolis. Among the most noted features are the numerous "skyscrapers," as nowadays called. This class of structures would not be practical for business usage were it not for the modern passenger elevator which has been perfected by American inventors and manufacturers. It is most appropriate that a book showing so many skyscrapers as King's Views should be presented with the compliments of the Otis Elevator Co. of New York, which has equipped so many buildings in New York with improved passenger and freight elevators, as well as in various other cities in this country and in foreign lands. The Manufacturers' Record acknowledges the receipt of a copy of King's Views from the Otis Elevator Co.

Anchor Post Iron Works.

A branch of manufactured products that is more and more in demand every day is that which includes the ornamental iron work used in building fences, gates and railings and other enclosures. The design and manufacture of these articles has reached a point where American offerings are meeting every need of buyers and dealers throughout the entire country. A booklet giving some timely facts and pictures regarding the articles is the catalogue of the Anchor Post Iron Works of 15 Cortlandt street, New York. It is handsomely illustrated and descriptive of the Anchor Post Company's offerings. It does not, of course, illustrate all the different styles of fences, gates and railings made, but is comprehensive enough to indicate the character and extent of the Anchor Post Iron Works' specialties. A number of arbors, trellises, wire espaliers, wrought-iron pagodas, etc., are shown, all of which form an important part of this attractive branch of landscape architecture. An important specialty with the company is the Anchor Fence Post, which holds the posts in their true alignment, and consequently preserves the fence in appearance and durability. Its value for railroad and factory use, for country estates and in other situations is evident. The bar is of high carbon steel of a shape designed to give the greatest possible strength. Two sockets are bolted to the base at a height sufficient to bring the sockets slightly below the surface when the post is driven to its proper depth. After it is driven down two steel stakes or anchors, as they are called, are driven diagonally through the sockets into the solid ground, securely bracing the post on opposite sides of the fence.

Cole Four-Cylinder Compound Locomotive.

If interested in railway equipment, note the following: "The time has arrived when merely increasing weight and size of locomotives to meet increasing weights of trains and severity of service does not suffice. To increase capacity, improve economy and at the same time reduce injury to track a new development is needed. Limits of size and weight have been reached in Europe, and to meet analogous conditions there the four-cylinder balanced compound has been developed into remarkably successful practice. The purpose of the Cole four-cylinder balanced compound is to advance American practice by adapting to our conditions the

principles which have brought such advantageous results abroad, especially the principles of the De Glehn compound. The Cole four-cylinder balanced compound employs the principle of subdivided power. Two of the cylinders (the high-pressure between the frames) drive the forward or crank axle, and the others (the low-pressure, outside of the frames) drive the second driving axle. In order to secure a good length for connecting-rods without lengthening the boiler, the high-pressure cylinders are located in advance of their usual position. Special stress is laid on perfect balancing and the elimination of the usual unbalanced vertical component of the counterbalance stresses as a means for increasing capacity, improving economy of operation and maintenance and promoting good conditions of the track. Illustrations and photographs of four-cylinder balanced compounds follow." The foregoing is the introduction to the American Locomotive Co.'s catalogue of the Cole four-cylinder compound locomotive. Write the offices at 111 Broadway, New York, for a copy.

Modern Towing Apparatus.

With great increase in marine traffic came the demand for improved apparatus of various kinds for facilitating the work of vessels. An important branch of marine industry is the towing of all kinds of vessels in all the waters of the globe, and inventors have bent their best efforts to provide towing apparatus that would limit the strain on towing hawsers and thus prevent the partings which had previously been so frequently the cause of great loss, and still continue to be a source of risk where modern towing apparatus is not used. The Shaw & Spiegler patent automatic steam towing machine has become prominent everywhere in its field of towing with a steel-wire hawser all kinds of craft, from the smallest barges, schooners and lumber rafts to the largest floating dry-docks, monitors, transports, battleships, etc. The distinctive feature of the equipment is that by means of its driving and cushioning steam cylinders there is provided an elastic steam cushion and an automatic relief to the hawser, without which the hawser would be continually straining and frequently breaking. It is said that for reasons which are convincing the steel-wire hawser is superseding the rope hawser in this work. The maker of the Shaw & Spiegler machine thus summarizes the advantages of the equipment: "Overcomes completely the parting of the hawsers, saves greatly in the cost of hawsers, shortens the towing line while going at full speed, convenient for handling in crowded harbors, saves labor and caking, makes steering easier, is a valuable wrecking machine and valuable for towing in winter when necessary to break ice." The marine world knows the Shaw & Spiegler machinery, and those who are interested in towing should not fail to know the details of the Shaw & Spiegler device. The American Ship Windlass Co. of Providence, R. I., manufactures the equipment, and recently prepared an interesting pamphlet showing the general use into which its specialty has come and describing it in detail.

Helps to Master Words.

When writing it is well for the business man, in every walk of life, to consider well his words, that they may carry the force or meaning intended. Because of a lack of this accuracy business men have often lost contracts. Writers need just the right words to make their meanings clear and exact—to make a contract sharp and strong. Two books that are helps to securing a mastery of English have recently been prepared by a well-known authority in English, James C. Fernald, L.L.D., associate editor of Funk & Wagnall's Standard Dictionary; editor of the Students' Standard Dictionary, etc. These books are "English Synonyms, Antonyms and Prepositions" and "Connectives of English Speech." Their titles indicate their scope, and an examination of the actual volumes shows a quantity of valuable instructive information for the correct writing of inclusive and clear English. The first has more than 7500 classified and discriminated synonyms and nearly 4500 classified antonyms. Correct uses of the prepositions are clearly shown by illustrative examples. Hints and helps on the accurate use of words are also presented, revealing surprising possibilities of fullness, freedom and variety of utterance. This work is practically a revelation of the wealth and power of the English language, and it has received strong recommendation for its usefulness from Edmund C. Stedman, J. G. Schurman of Cornell University, Wm. Hand Browne of Johns Hopkins University, Edward H. Magill and many others of equal prominence in the educational world. The "Connectives of English Speech" has likewise been praised highly by leading authorities in education throughout the

United States. It gives the definitions, with the correct usage of these parts of speech so far as pertains to their office as connectives in the construction of English phrases and sentences, indicating such prepositions as should be used after verbs and those concerning which questions are likely to arise, with numerous quotations sustaining the decisions as to correct or incorrect usage. In fact, the book is a practical and invaluable guide to clear and precise diction for every business and professional man, student, writer and speaker. The Funk & Wagnalls Company, 23d street and Fourth avenue, New York, publishes these works.

PIG-IRON PRODUCTION

On a Basis of 25,000,000 Tons a Year.

The Iron Age in its weekly review says: "The Lake Superior ore market has furnished in the past week one of the most remarkable developments of this record-breaking year. At the end of the first week in December, with cargoes of 1905 ore still coming down the lakes, it was authoritatively estimated that nearly 90 per cent. of the merchant ores to be mined for 1906 had been sold. Careful computation also shows that, counting in the ore of consumers having their own mines and of consumers receiving ore on long-time contracts, there has now been placed 96 per cent. of all the Lake ore available for next year. An output of 36,000,000 to 37,000,000 tons is now figured on for 1906, and of this, only about 1,000,000 tons is still for sale.

"Complete returns from the shipping ports show that the water shipments this year aggregated 33,473,761 tons. Adding all-rail shipments, this indicates total shipments for the current year of 34,100,000 gross tons, a record output, which compares with the maximum of 27,571,121 gross tons in 1902 and an average of 23,500,000 tons for the past four years.

"Pig-iron production is now on the basis of over 25,000,000 tons per annum. Our statistics for the month of November show that for that short month the production of anthracite and coke iron amounted to 2,014,021 gross tons, against 2,053,174 tons in October, a month of 31 days. Adding as a conservative estimate a monthly production of 30,000 tons of charcoal iron, the annual rate given above is reached. In November the steel companies contributed 1,334,644 tons to this total.

"The event of the week is the announcement that the Cambria Steel Co. has purchased 60,000 tons of Bessemer pig for forward delivery on the basis of monthly average prices. While the Steel Corporation has not yet bought its requirements for the first quarter, it is understood that the metal will be available.

"So far as can be learned, there is no truth in the cable reports from England of purchases there for American account of 25,000 tons of Bessemer pig for consumption here. The only steelmaker in this country likely to handle such a quantity denies such a transaction, which, too, is unlikely, because the prices abroad are above the parity here. The report is regarded as a bull canard.

"A feature of the situation in manganese material is the purchase by the Steel Corporation of between 25,000 and 30,000 tons of spiegelisen. The ferro-manganese market shows annoying variations in prices.

"The steel situation is growing serious with increasing scarcity. Our Chicago correspondent reports that one large interest in that district estimates a shortage of 15,000 tons per month. The leading interest in the Central West is unable to operate as much finishing capacity as desired, because the supply of sheet and tinplate bars is inadequate. In the East mills which until now were running on \$23 and \$24 steel must face the question of buying new supplies at close to \$30."

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD, Baltimore, Md., December 13.

The Baltimore stock market was generally quiet during the past week, but with little variation in prices. In the dealings United Railways common sold at 14½; the trust certificates at 15½ and 15¾; the income bonds from 65 to 64½; the trust certificates from 64½ to 64, and the 4 per cents from 92¼ to 92¾. Consolidated Gas 6s changed hands at 109¾, and the 5s at 114¾. Seaboard common was dealt in at 32 to 32½; the new common at 30 to 30½; the new first preferred at 90¼ to 90, and the new second preferred from 60¼ to 61½. Seaboard 4s sold at 89¼ to 89½, and the 3-year 5s at 100¼; Cotton Duck incomes at 40; do. 5s at 83, and Consolidated Cotton Duck common at 11¼; G. B. & S. Brewing at 8, the incomes from 31 to 31¾ and the 1sts from 61 to 60½.

Bank stocks sold as follows: Maryland, 25; Marine, 39¼; Farmers and Merchants', 53½; Exchange, 183; Western, 39; Commercial and Farmers', white certificates, 130.

Fidelity & Deposit sold at 147¼ to 147; Fidelity Trust from 197½ to 200¼; International Trust, 145; Maryland Trust preferred warrants, 15; Maryland Casualty, 57½.

Other securities were traded in as follows: Alabama Consolidated Coal & Iron preferred, 93¼ to 95¼; Northern Central Railway stock, 106½ to 107½; Houston Oil common, 6¼ to 7; Atlantic Coast Line 4s, 102; do. Connecticut 5s, certificates, 114; do. new 4s, certificates, 94; do. Connecticut 4s, certificates, 5-20s, 96; Baltimore, Sparrows Point & Chesapeake 4½s, 97½ to 98; Coal & Iron Railway 5s, 106¼; Central Railway 5s, 116; Charleston & West Carolina 5s, 113 to 114; Florida Southern 4s, 100½; Seaboard & Roanoke 5s, 113¼; Baltimore City 5s, 1916, 114¼; Carolina Central 4s, 98¾ to 99; Georgia & Alabama Consolidated 5s, 112½ to 112¾; Georgia Southern & Florida 5s, 115; City & Suburban 5s (Baltimore), 112¾; Virginia Electric Railway & Development 5s, 99¾; City & Suburban (Washington) 5s, 106½; Virginia Midland 5ths, 113¾ to 113¾; Consolidation Coal 4½s, 99; Potomac Valley 5s, 118; Western Maryland 4s, 87; Atlanta & Charlotte 1sts, 106; Norfolk & Carolina 1st 5s, 118¾; Virginia Deferred, Brown Bros. certificates, 22½; Atlantic Coast Line of South Carolina 4s, 104; Maryland & Pennsylvania 4s, 94¾; Baltimore Traction 5s, 112¾; Virginia Midland 2ds, 110¼ to 110½; Wilmington & Weldon 5s, 119¾; Baltimore City 3½s, 1940, 106; do. do. 1930, 105.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended December 13, 1905.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast Line.....	100	162	163
Atlantic Coast Line of Conn.....	100	430	440
Georgia Southern & Florida.....	100	35	...
Georgia Sou. & Fla. 1st Pref.....	100	...	100
Georgia Sou. & Fla. 2d Pref.....	100	71	...
Maryland & Pennsylvania.....	100	...	32
Norfolk Railway & Light.....	25	...	13¾
Seaboard Railway Common.....	100	...	32
United Railways & Elec. Co.....	50	14¾	15

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank.....	10	29	29½
Commercial & Far. Nat. Bank.....	100	130	140
Com. & Far. Nat. Bk., Blue Cts.....	100	142	160
Drovers & Mech. Nat. Bank.....	100	225	...
Farmers & Mer. Nat. Bank.....	40	53	54
First National Bank.....	100	...	150
German-American Bank.....	100	110	...
Maryland National Bank.....	20	24¾	25¼
Merchants' National Bank.....	100	180	...
National Bank of Baltimore.....	100	117½	...
National Exchange Bank.....	100	183	185

National Howard Bank.....	10	11¾	...
National Marine Bank.....	30	39	40
National Mechanics' Bank.....	10	25	...
Western National Bank.....	20	38	...

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
American Bonding & Trust.....	50	47½	55
Baltimore Trust & Guarantee.....	100	337½	340
Fidelity & Deposit.....	50	148	150
Fidelity Trust.....	100	200	210
International Trust.....	100	144	145
Mercantile Trust & Deposit.....	50	143	148
Security Storage & Trust.....	100	150	60
Union Trust.....	50	54½	60
U. S. Fidelity & Guaranty.....	100	136	138

Miscellaneous Stocks.	Par.	Bid.	Asked.
Alabama Coal & Iron.....	100	70	79½
Ala. Con. Coal & Iron Pref.....	100	95	95½
Consolidated Gas.....	100	...	87
Consolidation Coal.....	100	96½	100
Consolidated Cotton Duck.....	50	...	12
Consolidated Cotton Duck Pfd. 50	...	...	35
G. B. & S. Brewing Co.....	100	7½	8½

Railroad Bonds.	Par.	Bid.	Asked.
Atlanta & Charlotte 1st 7s, 1907.....	105½	106	...
Atlan. Coast Line 1st Con. 4s, 1952.....	101¾	102	...
Atlantic Coast Line 4s, Cfs., 1952.....	...	94½	...
Atlantic Coast Line (Conn.) 4s.....	...	85	...
Balto. & Harrisburg Ext. 5s, 1938.....	111	114	...
Carolina Central 4s, 1949.....	...	113	...
Charleston & W. Car. 5s, 1946.....	113	114	...
Char. Col. & Aug. 1st 5s, 1910.....	119	...	...
Coal & Iron Railway 5s, 1929.....	105¾	106¼	...
Columbia & Greenville 1st 6s, 1916.....	116	...	...
Georgia & Alabama 5s, 1945.....	112	112½	...
Georgia, Car. & North. 1st 5s, 1929.....	112½	112¾	...
Georgia Pacific 1st 6s, 1922.....	123¼	...	...
Georgia South. & Fla. 1st 5s, 1945.....	115¾	116	...
Maryland & Pennsylvania 4s, 1951.....	93	94½	...
Piedmont & Cum. 1st 5s, 1911.....	109½	...	...
Potomac Valley 1st 5s, 1911.....	...	89	89½
Seaboard Air Line 5s, 1950.....	102½	102½	...
Seaboard Air Line 5s, 19-year, 1911.....	102½	102½	...
Seaboard Air Line 5s, 3-year.....	100½	100½	...
Seaboard & Roanoke 5s, 1925.....	112¾	114	...
Southern Railway Con. 5s, 1994.....	120¼	...	...
Virginia Midland 2d 6s, 1911.....	110½	...	...
Virginia Midland 4th 3-4-5s, 1921.....	112	...	...
Virginia Midland 5th 5s, 1926.....	113	113¾	...
Western Maryland new 4s, 1952.....	86¾	87	...
West. North Carolina Con. 6s, 1914.....	114½	...	...
West Virginia Central 1st 6s, 1911.....	119¼	...	...
Wilmington & Wel. Gold 5s, 1935.....	119	120¾	...

Street Railway Bonds.	Par.	Bid.	Asked.
Anacostia & Potomac 5s, 1919.....	105½	106½	...
Atlanta Con. St. Rwy. 5s.....	108	...	...
Baltimore City Passenger 5s, 1911.....	105½	...	...
Baltimore Traction 1st 5s, 1929.....	115½	116½	...
Charleston Con. Electric 5s, 1999.....	94½	95	...
City & Suburban 5s (Baltimore), 1922.....	112½	113	...
City & Suburban 5s (Wash.), 1948.....	106¼	108	...
Knoxville Traction 1st 5s, 1928.....	107	107½	...
Lexington Railway 1st 5s, 1949.....	102¾	104½	...
Macon Rwy. & Lt. 1st Con. 5s, 1953.....	100	...	...
Metropolitan 5s (Wash.), 1925.....	120	...	...
Norfolk Street Railway 5s, 1944.....	110	...	...
North Baltimore 5s, 1942.....	120	...	...
United Railways 1st 4s, 1949.....	92¾	...	...
United Railways Inc. 4s, 1949.....	64½	65	...

Miscellaneous Bonds.	Par.	Bid.	Asked.
Consolidated Gas 5s, 1910.....	109	109¾	...
Consolidated Gas 5s, 1929.....	115	...	...
G. B. & S. Brewing 1st 3-4-5s.....	60	61	...
G. B. & S. Brewing 2d Incomes.....	30¾	31¼	...
Maryland Telephone 5s.....	98	100	...
Mt. V. & Woodly's Cot. Duck 5s.....	82¾	83	...
Mt. V. & Woodly's Cot. Duck Inc.....	35	42½	...
United Elec. Light & Power 4½s.....	98	99	...

SOUTHERN COTTON-MILLSTOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending December 3.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	88¼	92
Aiken Mfg. Co. (S. C.).....	84	91
Anderson Cotton Mills (S. C.).....	103	106
Arkwright Mills (S. C.).....	115	119
Augusta Factory (Ga.).....	79	85
Avondale Mills (Ala.).....	94	...
Belton Mills (S. C.).....	107	111
Bibb Mfg. Co. (Ga.).....	101	104
Brandon Mills (S. C.).....	101½	104
Calhoun Cotton Mills (N. C.).....	137	...
Chadwick Mfg. Co. (N. C.) Pfd.....	102	102
Chiquola Mfg. Co. (N. C.).....	91	91
Clifton Mfg. Co. (S. C.).....	109	114
Clifton Mfg. Co. (S. C.) Pfd.....	101½	106
Clinton Cotton Mills (S. C.).....	146	...
Columbus Mfg. Co. (Ga.).....	100	100
Courtenay Mfg. Co. (S. C.).....	90½	103
Dallas Mfg. Co. (Ala.).....	82	85
Darlington Mfg. Co. (S. C.).....	60	75
Eagle & Phenix Mills (Ga.).....	119	124
Easley Cotton Mills (S. C.).....	124	126
Enoree Mfg. Co. (S. C.).....	79	85
Enterprise Mfg. Co. (S. C.) Pfd.....	102	91
Enterprise Mfg. Co. (Ga.).....	79	85
Exposition Cotton Mills (Ga.).....	200	...
Gaffney Mfg. Co. (S. C.).....	66	69
Gainesville Cotton Mills (Ga.).....	25	25
Granby Cot. Mills (S. C.) 1st Pfd.....	50	65
Graniteville Mfg. Co. (Ga.).....	159	166
Greenwood Cotton Mills (S. C.).....	96¼	100
Grendel Mills (S. C.).....	106	...
Henrietta Mills (N. C.).....	200	200
King Mfg. Co. J. P. (Ga.).....	97	103
Lancaster Cotton Mills (S. C.).....	104	104
Lancaster Cotton Mills (S. C.) Pfd.....	93	96
Laurens Mfg. Co. (S. C.).....	161	161
Limestone Mills (S. C.).....	98	101
Lockhart Mills (S. C.).....	97	...
Lockhart Mills (S. C.) Pfd.....	102	102
Louise Mills (N. C.).....	94	...
Louise Mills (N. C.) Pfd.....	102	102
Marlboro Cotton Mills (S. C.).....	65	76
Mayo Mills (N. C.).....	150	200
Mills Mfg. Co. (S. C.).....	98	101
Mills Mfg. Co. (S. C.) Pfd.....	101	101
Monaghan Mills (S. C.).....	102	104
Monarch Cotton Mills (S. C.).....	79	...
Newberry Cotton Mills (S. C.).....	116	...
Norris Cotton Mills (S. C.).....	101	...
Odell Mfg. Co. (N. C.).....	80	...
Orangeburg Mfg. Co. (S. C.).....	79	97
Orr Cotton Mills (S. C.).....	103	107
Pacolet Mfg. Co. (S. C.).....	155	...
Pacolet Mfg. Co. (S. C.) Pfd.....	173	...
Pelzer Mfg. Co. (S. C.).....	170	...
Piedmont Mfg. Co. (S. C.).....	170	175
Poe Mfg. Co. F. W. (S. C.).....	125	130
Raleigh Cotton Mills (N. C.).....	100	100
Richland Cot. Mills (S. C.) Pfd.....	50	...
Roanoke Mills (N. C.).....	113	...
Saxon Mills (S. C.).....	101	103
Sibley Mfg. Co. (Ga.).....	58	63
Southern Cotton Mills (N. C.).....	80	...
Spartan Mills (S. C.).....	135	140
Springstein Mills (S. C.).....	100	...
Trilon Mfg. Co. (Ga.).....	132	140
Tucapau Mills (S. C.).....	139	...
Victor Mfg. Co. (S. C.).....	110	113
Warren Mfg. Co. (S. C.).....	99	105
Warren Mfg. Co. (S. C.) Pfd.....	106	...
Washington Mills (Va.).....	17	20
Washington Mills (Va.) Pfd.....	93	96
Whitney Mfg. Co. (S. C.).....	125	...
Windsor Mills (N. C.).....	118	125
Woodruff Cotton Mills (S. C.).....	102	105

Spartan Mills (S. C.).....	137	...
Springstein Mills (S. C.).....	100	...
Trilon Mfg. Co. (Ga.).....	131	142
Tucapau Mills (S. C.).....	139	142
Victor Mfg. Co. (S. C.).....	109	113
Warren Mfg. Co. (S. C.).....	105	...
Warren Mfg. Co. (S. C.) Pfd.....	98	101
Washington Mills (Va.).....	17	20
Washington Mills (Va.) Pfd.....	93	96
Whitney Mfg. Co. (S. C.).....	130	...
Windsor Mills (N. C.).....	118	125
Woodruff Cotton Mills (S. C.).....	103	...

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending December 11.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	93	...
Aetna Cotton Mills (S. C.) Pfd.....	70	...
Aiken Mfg. Co. (S. C.).....	85	91
American Spinning Co. (S. C.).....	108	...
Anderson Cotton Mills (S. C.).....	105	...
Arcadia Mills (S. C.).....	84	...
Arkwright Cotton Mills (S. C.).....	115	...
Augusta Factory (Ga.).....	80	86
Avondale Mills (Ala.).....	95	...
Belton Mills (S. C.).....	107	110
Bibb Mfg. Co. (Ga.).....	107	109
Brandon Mills (S. C.).....	104	107
Brogan Mills (S. C.).....	79	95
Cabarrus Cotton Mills (N. C.).....	137	...
Chadwick Mfg. Co. (N. C.) Pfd.....	103	...
Chiquola Mfg. Co. (S. C.).....	80	...
Clifton Mfg. Co. (S. C.).....	112	118
Clifton Mfg. Co. (S. C.) Pfd.....	103	...
Clinton Cotton Mills (S. C.).....	146	...
Columbus Mfg. Co. (Ga.).....	92	95
Courtenay Mfg. Co. (S. C.).....	100	103
Dallas Mfg. Co. (S. C.).....	84	90
Darlington Mfg. Co. (S. C.).....	62	...
D. E. Converse Co. (S. C.).....	116	...
Eagle & Phenix Mills (Ga.).....	120	...
Easley Cotton Mills (S. C.).....	124	127
Enoree Mfg. Co. (S. C.).....	87	...
Enterprise Mfg. Co. (S. C.) Pfd.....	100	103
Enterprise Mfg. Co. (Ga.).....	70	85
Exposition Cotton Mills (Ga.).....	174	201
Gaffney Mfg. Co. (S. C.).....	65	70
Gainesville Cotton Mills (Ga.).....	20	...
Glenwood Cotton Mills (S. C.).....	100	...
Gluck Mills (S. C.).....	97	...
Granby Cot. Mills (S. C.) 1st Pfd.....	50	...
Graniteville Mfg. Co. (S. C.).....	155	160
Greenwood Cotton Mills (S. C.).....	95	100
Grendel Mills (S. C.).....	104	107
Hartselle Cotton Mills (S. C.).....	92	...
Henrietta Mills (N. C.).....	200	...
Inman Mills (S. C.).....	90	95
King Mfg. Co. J. P. (Ga.).....	97	103
Lancaster Cotton Mills (S. C.).....	100	105

A. I. Selden, cashier, and Geo. A. Tonsmeire, assistant cashier.

The Bank of Mobile, National Banking Association, at Mobile, Ala., reports at close of business November 9 loans and discounts, \$392,064; capital stock paid in, \$100,000; undivided profits, less expenses and taxes paid, \$15,597; individual deposits subject to check, \$400,307; total resources, \$542,485. The officers are Michael J. McDermott, president; Sidney Lowenstein, vice-president, and Thomas J. O'Connor, cashier.

The Third National Bank of Columbus, Ga., reports at close of business November 9, 1905, loans and discounts, \$759,681; cash and sight exchange, \$345,931; capital stock, \$200,000; surplus, \$175,000; undivided profits, \$10,661; deposits, \$756,563; total resources, \$1,342,224. The officers are G. Gunby Jordan, president; W. C. Bradley, vice-president; A. W. Hale, cashier, and Alvan Howard, assistant cashier.

The Columbus Savings Bank & Trust Co. of Columbus, Ga., reports at close of business November 9, 1905, loans and discounts, \$314,659; cash and sight exchange, \$31,957; capital stock, \$200,000; surplus, \$62,500; undivided profits, \$5202; deposits, \$622,978; total resources, \$890,711. The officers are G. Gunby Jordan, president; W. C. Bradley vice-president, and H. B. Crowell, treasurer.

New Corporations.

It is reported that J. H. Newman is endeavoring to establish a bank of \$15,000 capital at Tompkinsville, Ky.

The People's Bank will begin business at Winchester, Ky., it is reported, about December 18 with \$100,000 capital.

Reported that a West Virginia banking association has taken steps to establish a bank at Spottsylvania C. H., Va.

The Home Bank of St. Matthews, S. C., is being organized by local parties, and it is reported all of the capital has been subscribed.

The Farmers' Bank & Trust Co. of Tupelo, Miss., has organized and proposes to begin business January 1; capital \$100,000.

The Mangham State Bank of Mangham, La., capital \$15,000, has been granted a charter. The directors are Charles Roth, Simon Segari and George W. Davison.

The National Bank of Summers at Hinton, W. Va., has been authorized to begin business with \$100,000 capital. Harrison Gwinn is president and J. H. Jordan, cashier.

The Citizens' Bank of Wilson has been incorporated at Wilson, N. C., with \$25,000 capital by R. G. Briggs, W. W. Simms, C. M. Fleming and W. M. Farmer, all of Wilson.

The First National Bank of Prairie Grove, Ark., has been approved; capital \$25,000. The incorporators are J. H. Marlar, D. N. McCormick, John B. Pearson, I. B. Harris and others.

Hon. W. W. Osborne will be president and A. J. Garfunkel vice-president of the Exchange Bank of Savannah, Ga., which is expected to begin business about February 1 with \$100,000 capital.

A new bank with \$25,000 capital has been opened at Trenton, S. C. The officers are: President, B. F. Mauldin of Anderson; vice-president, S. T. Hughes of Trenton; cashier, O. H. T. Day.

Application for a charter for the Valdosta Investment Co. of Valdosta, Ga., with capital not to exceed \$200,000, has been made by E. W. Lane of Jacksonville, Fla., and D. C. Ashley of Valdosta, Ga.

A new fire insurance company with not less than \$200,000 capital is reported being organized at Memphis, Tenn., S. B. Anderson, Dr. Heber Jones and other prominent local parties being interested.

The Citizens' Bank, with \$25,000 capital, is reported to have begun business at Adell, Ga. Those interested are A. A. Parish, S. P. Williams, J. W. F. Woodall, S. J. Harwell, F. H. Hall and J. M. Sutton.

The First National Bank of Tolar, Texas, capital \$25,000, has been organized with the following officers: R. P. Campbell, president; W. C. Akard and Wm. F. Perkins, vice-presidents; W. A. Hyatt, cashier.

The Carolina Life Insurance Co. of High Point, N. C., capital \$500,000, has been authorized to begin business with \$100,000 capital. The directors are W. J. Armfield, R. W. Armfield and J. A. Turner.

The incorporators of the new bank recently organized at Bassfield, Miss., with \$30,000 capital are Vance R. McDonald, president; D. N. McLean, vice-president; John Sparks, Dr. W. Applewhite and James Clark.

The Organizing & Financing Co. of Raleigh, N. C., has begun business with \$250,000 capital. R. C. Strong is president; W. H. Williamson, vice-president; Joseph E. Pogue, secretary, and Jesse G. Ball, treasurer.

The People's Bank of Doe Run, Ga., capital \$25,000, has been granted a charter. The incorporators are D. B. Harrell, A. C. Howard, A. E. Stone, J. C. Fincher, W. B. Jones, Isaac Horne and C. B. Harrell, all of Colquitt county.

The North Carolina Security Co. of Greensboro, N. C., has been granted a charter; capital \$50,000. The incorporators are D. Sam Cox of Columbia, S. C.; John McDuffie of Fayetteville and R. A. Lancaster of Columbia, S. C.

The Bank of Arkansas is reported to have begun business at Fort Smith, Ark., with \$100,000 capital. The officers are T. J. Smith, president; J. T. Neece, vice-president; C. B. Carter, cashier, and Jilison S. Johnson, assistant cashier.

The Hollis National Bank of Hollis, O. T., has made application for a charter. The stockholders are E. J. Gardner, H. Mathewson and L. S. Noble of Hollis. The bank expects to begin business about January 1 with Mr. Gardner as cashier.

The Atlas Mortgage Co. of Memphis, Tenn., capital \$500,000, has made application for a charter. The incorporators are W. A. Hein, H. T. Winkelman, W. B. Rodgers, Henry Wetter, D. S. Rice, S. I. Sparks, George Neuhardt and W. P. Metcalf.

The Home Bank of St. Matthews, S. C., has organized by electing the following directors: Ed. Wimberly, president; Dr. T. N. Dreber, vice-president; Dr. A. R. Adle, T. M. Ambrose, S. Pearlstone, John McLaughlin, W. N. Whetstone and J. D. Inabinet.

It is reported that a new bank has been organized at Lake Park, Ga., with \$25,000 capital, and that W. S. Witham will be president. The incorporators are Dr. J. P. Prescott and Messrs. Ewell Brown, J. G. Saunders, Charles Barton and Keller White.

The First National Bank of Wrightsville, Ga., which succeeds the Johnson Banking Co., has been approved; capital \$75,000. The organizers are William W. Cook, Wrightsville, Ga.; W. C. Tompkins, E. A. W. Johnson, S. M. Johnson and Elmer Daley.

It is reported that the Moran State Bank has been established at Moran, Texas, by Sam Webb, C. B. Snyder, M. D. Bray, G. E. Waters, W. M. Broyles, W. H. Green, John F. Sedurek, L. H. Hill, H. C. Arendt, Hadley Robert and several others.

The Bank of Appalachia, with principal office at Appalachia, Va., has been granted a charter. The incorporators are R. W.

Holly, president, Inman, Va.; T. C. Fuller, vice-president, Booneville, Ky.; G. P. Head, cashier, Preacher, Va.; capital \$5000 to \$50,000.

The Home Building & Loan Co. of Norfolk, Va. (a colored organization), has made application for a charter. The officers are Rev. L. H. Reynolds, president; W. F. Williamson, vice-president; C. H. Carter, secretary, and C. C. Dojan, treasurer; capital from \$4000 to \$5000.

The Citizens' State Bank of Burlington, O. T., has been incorporated with \$10,000 capital by William Jay, A. H. Stout, A. J. Titus, William Payton, W. A. Dorr and Joe Weiser of Cherokee, Luther Martin and L. W. Moore of Alva, and C. I. Overstreet of Driftwood.

A new bank is reported incorporated at Bond, Miss., with \$30,000 capital by J. E. North, S. C. Culpepper, E. M. Cowart, M. T. Bethune, J. R. Bond, A. Batson, P. W. Foote, cashier of the National Bank of Commerce, Hattiesburg; R. C. Hauenstein, C. R. North and W. S. Griffin.

The Bank of Townville at Townville, S. C., which was recently granted a commission, has elected the following officers: B. F. Mauldin, president, and W. C. King, cashier; directors, B. F. Mauldin, J. W. Shirley, L. O. Bradberry, L. N. Geer, R. A. Reeves, J. R. Bruce, G. E. Smith and J. R. Fant.

The Bank of Moreland at Moreland, Ga., capital \$25,000, has organized with the following officers: H. W. Camp, president; J. W. Camp, vice-president; H. Abner Camp, cashier; directors, H. W. Camp, J. W. Camp, H. G. Bailey, L. M. Farmer, W. L. Peel, J. W. Trammell and B. T. Thompson.

The Merchants and Planters' Bank is being organized at Raymond, Miss., with \$50,000 capital. Among those interested are Dr. S. S. Carter of Jackson, Miss.; Hon. B. W. Griffith, Mayre Dabney and R. L. Crook of Vicksburg, J. L. Gaddis of Bolton and G. C. McLaurin, C. S. Spann, H. S. Perkins and P. D. Ratliff of Raymond.

The Bank of Hahira at Hahira, Ga., capital \$25,000, has made application for a charter. The incorporators are Dr. J. F. Owens, L. L. Webb, L. M. Stanfill, J. B. Hutchinson, M. Marshall, L. H. Hodges, all of Lowndes county. It is reported that local parties are also organizing another new bank at the same place to have \$200,000 capital.

The American Savings Bank of Liberty, Tenn., capital \$15,000, has elected the following officers: President, T. G. Bratten; vice-president, W. H. Bass; cashier, J. M. Bradley; directors, G. B. Givan, D. B. Wilson, J. B. West, R. B. Vanatta, L. A. Bass, S. J. Chapman, Mrs. Lem Corley, W. L. Evans, W. F. Hooper, H. M. Evans, J. E. Williams and T. L. Lamberson.

The Merchants and Farmers' Bank has been organized at New Augusta, Miss., with \$30,000 capital, those interested being Vance R. McDonald, cashier of the bank at Purvis; N. W. Fountain, W. E. Griffin, D. K. McDonald, E. E. McCoy, A. A. McSwain, Kennedy Bros., Mahned Lumber Co., P. A. Carter, Julius Forbert, J. M. Gilles, C. T. Fullilove, W. C. Lott and Small Bros.

The First Bank of Kemp, I. T., capital \$10,000, is about to begin business with the following officers: A. S. Burrows, Denison, president; F. C. Battle, vice-president; T. H. Fowler, Kemp, cashier; directors, F. C. Battle, J. M. Whittemore, W. B. Sears, J. H. Holland, L. H. Grimes, E. Payne and T. H. Fowler of Kemp, A. S. Burrows and G. W. Ellis of Paucaunla, I. T. C. S. Cobb, president of the National Bank of Denison, and R. S. Legate, cashier of the same institution, are also interested in the new bank.

The People's Bank & Trust Co. of Jack-

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sonville, Fla., capital \$50,000, published its charter. The officers named are Arthur T. Williams, president; L. J. Campbell, first vice-president; P. A. Holt, second vice-president; M. D. Johnson, cashier and secretary, and Arthur T. Williams, J. Campbell, Walter K. Haile, T. B. Stringfellow, John W. Dodge, Frank A. Chase, M. D. Johnson, Pleasant A. Holt, L. L. Meggs, W. J. Bryan, Marion M. Charles M. Kaufman, John J. Flynn and J. I. Hollingsworth, directors.

[For Additional Financial News, See Page 32.]

